

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

The Permit Number is: **EPR/PP3232EF**
The Applicant / Applicant is: **Amber Real Estate Investments Limited**
The Installation is located at: **Sutton Veny Farm Poultry Unit
Deverill Road Trading Estate
Sutton Veny
Warminster, Wiltshire
BA12 7BZ.**

What this document is about

This is a decision document, which accompanies the environmental 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 issue to the Applicant. It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position. Unless the document explains otherwise, we have accepted the Applicant's proposals.

We try to explain our decision as accurately, comprehensively and plainly as possible. Achieving all three objectives is not always easy, and we would welcome any feedback as to how we might improve our decision documents in future. A lot of technical terms and acronyms are inevitable in a document of this nature: we provide a glossary of acronyms near the front of the document, for ease of reference.

Preliminary information and use of terms

We gave the application the reference number EPR/PP3232EF/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/PP3232EF. We refer to the proposed permit as "the **Permit**" in this document.

The Application was duly made on 10/04/14.

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

Amber Real Estate Investments Limited’s proposed facility is located at Sutton Veny Farm Poultry Unit, Deverill Road Trading Estate, Sutton Veny, Warminster, Wiltshire, BA12 7BZ. 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
PO	Pre-operational Condition
RGN	Regulatory Guidance Notes
SAC	Special Area of Conservation
SHPI(s)	Site(s) of High Public Interest
SPA	Special Areas of Protection
SSBRA	Site Specific Bioaerosol Risk Assessment
SSSI(s)	Site(s) of Special Scientific Interest

1 Our proposed decision

We are minded to grant the Permit to the Applicant. 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.

This Application is to operate an Installation which is subject to the Industrial Emissions Directive (IED).

The Permit contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of the Environmental Permitting Regulations and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard condition appropriate. This document does, however, provide an explanation of our use of “tailor-made” or Installation-specific conditions, 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 13th December 2013; however we required further information from the Applicant in order for us to consider the application complete. The additional information is identified below along with the information received after the application was duly made:

Additional information received

Description	Date	Comments
Application received EPR/PP3232EF/A001	13/12/13	Application for an intensive farming poultry Installation permit for growing 223,900 broiler chickens.
Additional information received	10/04/14	<ul style="list-style-type: none">• Applicant request to reduce number of poultry places applied for from 223,900 to 179,120 broilers.• Revisions to the ventilation proposals.• Response to queries relating to:<ul style="list-style-type: none">○ the site specific bioaerosol risk assessment;○ odour risk assessment and modelling;○ revised site location plan; and○ other supporting documents to reflect change in proposal.
Response to Schedule 5 Notice dated 04/07/14	31/07/14	<ul style="list-style-type: none">• Revisions to the site location plan, lighting plan, site layout and drainage plans.• Revisions to the non technical summary, accident management plan, site closure plan and EMS summary.
Response to Schedule 5 Notice dated 04/07/14	29/09/14	<ul style="list-style-type: none">• Revisions to site layout plan, odour management plan and noise management plan.• Revisions to dirty and surface water drainage proposals.
Additional information received	15/10/14	Revised noise management plan
Response to Schedule 5 Notice dated 21/10/14	14/11/14	Updated noise risk assessment and noise management plan
Additional information received	20/03/15	Revised noise management plan and odour management plan

The application was duly made on 10th April 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 – see below for requests for further information which are also listed in the above table.

2.2 Consultation on the Application

We carried out consultation on the Application from 15th May 2014 to 13th June 2014, in accordance with the EPR, our statutory Public participation Statement (PPS) and our own Regulatory Guidance Series (RGS) Note 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 the Wiltshire Star. 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, Rivers House, Sunrise Business Park, Higher Shaftesbury Road, Blandford Forum, Dorset, DT11 8ST and also sent a copy to Wiltshire Council for its own Public Register. Anyone wishing to see these documents could do so and arrange for copies to be made. We also published this application on our web pages 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":

- Local Authority (Planning department)
- Local Authority (Environmental Health department)
- Primary Care Trust (for England)
- Health and Safety Executive
- Public Health England
- Animal and Plant Health Agency

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly. Note that under our Working Together Agreement with Natural England, we only inform Natural England of the results of our assessment of the impact of the Installation on 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.

2.3 Requests for Further Information

Although we were able to consider the Application duly made, we did in fact need more information in order to determine it, and issued information notices on 4th July 2014 and 21st October 2014. A copy of the information notices were placed on our public register, as were the responses when received.

We received additional information from the Applicant following the publicising and public consultation on the draft decision. The information was clarification on certain aspects of the Application and therefore not material to require further public consultation. See Annex 2 of this document for further details.

3 The legal framework

The Permit will be granted, under Regulation 13 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

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

We address some of the major legal requirements directly where relevant in the body of this document. Other requirements are covered in a section towards the end of this document.

We consider that, in granting the Permit, it will ensure that the operation of the Installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

4 The Installation

4.1 Description of the Installation and related issues

4.1.1 The permitted activities

The Installation is subject to the EPR because it carries out an activity listed in Part 1 of Schedule 1 to the EPR:

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

The IED definition of “poultry” says that it 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.”

4.1.2 The Site

Sutton Veny Farm Poultry Unit is situated approximately 650 metres southwest of the village of Sutton Veny, Wiltshire. The Installation is approximately centred on National Grid Reference ST 89130 41621. The surrounding topography is characterised by gentle slopes and low lying hills.

The land around the site is predominantly agricultural land but there is a small industrial park to the northwest and a horse riding establishment to the northeast of the site. The horse stables/ offices for the horse riding business are approximately 255m from the site boundary but its grazing/riding fields are within 40m of the site boundary. There is also an allotment to the west of the site, within 30m of the site boundary. The closest residential property is located approximately 150m from the northern boundary of the Installation.

There are three relevant Habitat Directive sites located within 10km of the installation: ‘River Avon’ and ‘Salisbury Plain’ designated as Special Areas of Conservation; and ‘Salisbury Plain’ designated as a Special Protection Area. There are four Sites of Special Scientific Interest (SSSI) located within 5 km of the installation: ‘Scratchbury & Cotley Hills’, ‘Tytherington Down’, ‘River Avon System’ and ‘Salisbury Plain’. There are also ten designated Local Wildlife Sites (LWS) and one designated Ancient Woodland, located within 2 km of the installation.

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

We have taken into consideration the environmental impact of the activity on residential, commercial and protected habitats receptors. Due consideration was given to the magnitude, duration, probability of receptor exposure to emissions from, and loss of amenity as a result of the activity at the Installation.

Further information on the site is addressed below at 4.3.

4.1.3 What the Installation does

The Applicant has described the facility as an Intensive Poultry Farm. The Installation will comprise four poultry houses, numbered 1 to 4, which operate a fan ventilated fully littered floor system for broilers. The four poultry houses provide a combined capacity for 179,120 bird places. The houses will be stocked with day-old chicks, which will be grown until they reach slaughter weight (approximately 42 days). There is likely to be an average of 7 production cycles each year. Litter and dirty water will be removed from all four poultry houses at the end of each growing cycle and spread on land owned by third parties. All poultry houses are ventilated by roof fans with an emission point 8 metres above ground level and an efflux speed greater than 16 metres per second. All houses also have gable end fans, although these are operated infrequently to maintain temperature, typically in the summer months.

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

Operational features	Description		
Broiler rearing	179,120 day old chicks reared for 42 days on site		
Ventilation	48 high velocity roof fans (16m/s); and 24 Gable end fans (operated as required during the summer)		
Litter management	233 tonnes per crop; 1631 tonnes per annum; no litter stored on site.		
Waste water management	22,500 litres of wash water produced per day from washing out of the sheds then temporarily stored in underground tanks with a total capacity of 40,000 litres. Tanks are emptied and wash water disposed offsite at the end of each day of clean out.		
Carcass management	Removed daily and stored in sealed containers on site. Collected from site twice a week (or more regularly if required) and disposed of in accordance with Animal By Products Regulations.		
Water management	Clean and lightly contaminated water drains via sealed plastic pipe work to an attenuation pond on site and released to the surrounding ground via soakaway.		
Storage and use of raw material	<i>Description</i>	<i>Maximum amount stored</i>	<i>Annual throughput</i>
	Disinfectants	146 litres	1015 litres
	Rodenticides / Insecticides	None stored	20kg rodenticide 20 litres insecticide
	Vaccines	447,800 doses (approx.)	3,134,600 doses (approx.)
	Straw / Shavings	24 tonnes (approx.)	175 tonnes
	Diesel	1,200 litres	Variable
	LPG	24,000litres (approx)	Variable

4.2 The site and its protection

4.2.1 Site setting, layout and history

The Installation to be known as Sutton Veny Poultry Farm Unit is situated at National Grid Reference ST 89130 41621 in the South East end of Deverill Road Trading Estate located just off Deverill Road. The site will be approximately 5.5 acres in size at an altitude of approximately 117m and covers an area of around 6.5 acres. The site is in a rural location with both commercial properties and working farms in the surrounding area. The land in the immediate vicinity of the site is predominately flat with little to no fall in any direction.

The site is currently located outside flood zone 2 and 3 risk areas. It is situated on a principal aquifer - Boyne Hollow Sandstone. The site was constructed approximately 35 to 40 years ago and was used for housing poultry until 2007 at which time the site was decommissioned as the current buildings were nearing the end of their lifespan. There is no evidence of existing contamination on the site at present. The site is not in a groundwater source protection zone.

4.2.2 Proposed site design

The site will consist of four steel clear span construction poultry houses which will be designed and built in accordance with BAT. Each of the poultry houses will be built to a size of 97.6m x 23.2m and each have the capacity to house 44,780 birds giving a total site capacity of 179,120 birds. The buildings will comprise pre cast poured concrete walls supported on steel pinned strip foundations over an internal concrete floor poured over a continuous damp proof membrane. The insulated roof and side walls are clad profiled steel sheeting laid over 100-200mm fibreglass to reduce the flow of heat out of the buildings and designed to achieve a U-value not less than 0.4W/m².

The ventilation system will comprise high velocity roof mounted fans positioned at the top of a bespoke air/dust collection chamber. The 920mm high velocity fans exhaust the air at a rate of no less than 16m/s and at a height of 8m. Fresh air will be drawn into the buildings via inlets mounted in the side walls and the rear gable walls.

Double glazed argon filled opaque glass UPVC window units will be installed to give a natural daylight influx into the buildings of no less than 3% of the total floor area. The window units will each have a composite panel insulated blackout blind mounted on an automated rack and pinion system which will be controlled via a dawn to dusk external sensor. Modern thermostatically controlled LPG fuelled space heaters are used for heating all of the buildings while birds are young, as birds grow the demand for additional heat is reduced.

Areas outside of the houses will be laid to concrete, rolled stone and grassland. All the buildings will have a link to an underground dirty water tank which is located to the front of the houses with a maximum storage capacity of 40,000 litres and has a high level alarm system which is positioned at 75% capacity. Under normal circumstances, run-off from roofs discharges via sealed underground large bore pipework which run alongside each of the buildings from front to back of the site to a purpose built attenuation pond.

We believe that the Applicant's proposals are satisfactory as they represent best available technique (BAT). We have included pre-operational conditions to ensure that an Environmental Management System (EMS) is in place and compliance with BAT is confirmed prior to commencement of operations. We have also included improvement conditions requiring the Applicant to monitor the impact of odour and noise from the site on commissioning.

4.2.3 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, as referred to in the "Supporting Documents for a New Environmental Permit" document of the Application. Pre-operational condition PO1 requires the Applicant to have an Environmental Management System in place before the Installation is operational, and this will include a site closure plan.

At the definitive cessation of activities, the Applicant has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwaters, taking into account both the baseline conditions and the site's current or approved future use. To do this, the Applicant has to apply to us for surrender, which we will not grant unless and until we are satisfied that these requirements have been met.

4.3 Operation of the Installation – general issues

4.3.1 Administrative issues

The Applicant is the sole Applicant of the Installation.

We are satisfied that the Applicant is the person who will have control over the operation of the Installation after the granting of the Permit; and that the Applicant will be able to operate the Installation so as to comply with the conditions included in the Permit.

4.3.2 Management

The Applicant has stated in the Application that they will implement an Environmental Management System (EMS). A pre-operational condition (PO1) is included requiring the Applicant to have an EMS prior to

commissioning of the Installation and to make available for inspection all EMS documentation.

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

4.3.3 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.

4.3.4 Accident management

The Applicant has submitted an Accident Management 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 and if they should occur, their consequences are minimised. The Accident Management Plan will form part of the Environmental Management System, which must be in place prior to commissioning of the Installation.

5 Minimising the installation's environmental impact

The key issues which arose during this determination were the impact of ammonia, dust and bioaerosol emissions on sensitive local receptors, as well as any impact on amenity linked to odour and noise emissions arising from the Installation. We have therefore described how we assessed these issues in some detail in this document.

5.1 Ammonia assessment – human receptors

The Health Protection Agency has indicated (HPA 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.

We have also consulted Public Health England on this application and they are satisfied that provided the installation complies with the Regulatory requirements and the Environment Agency is satisfied that the techniques proposed by the Applicant represent best available technique (BAT), there is unlikely to be any significant adverse impact upon public health.

The Applicant has proposed measures to manage particulate emissions, which will minimise ammonia emissions from the site. These measures are

included in their Odour Management Plan. We have assessed these measures and have determined that they represent BAT for this activity. Measures include operating ventilation systems to achieve appropriate conditions and 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. All internal areas are regularly blown down using high pressure air lances to remove areas of trapped dust. Site equipment and infrastructure are monitored and maintained regularly. More details about the proposed measures are available in the applicant's Odour Management Plan.

5.2 Ammonia assessment - Ecological Receptors

Ammonia emissions from farms may lead to direct effects on vegetation. Indirect impacts may arise due to the deposition of ammonia on the ground. Nitrogen deposition can lead to acidification of the ecosystem or act as a fertiliser, leading to changes in the structure of the habitat.

There are two relevant Habitat Directive sites, 'River Avon', 'Salisbury Plain' designated as Special Areas of Conservation (SAC) and 'Salisbury Plain' designated as a Special Protection Area (SPA) with 10km of the Installation. There are also four nature conservation sites 'Scratchbury & Cotley Hills', 'Tytherington Down', 'River Avon System' and 'Salisbury Plain', designated as Sites of Special Scientific Interest (SSSI) located within 5 kilometres of the Installation. There are also ten designated Local Wildlife Sites (LWS) and one designated Ancient Woodland, located within 2 kilometres of the Installation.

An Appendix 11 (Habitats Regulations Assessment) form detailing the impacts of the proposals on the relevant SAC was completed on 09/07/14 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 09/07/14 for audit purposes only.

5.2.1 Ammonia Assessment – SAC / SPA sites

The following trigger thresholds have been designated by Natural England for assessment of European sites.

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

Screening using the Ammonia Screening Tool (v4.4) has determined that the Process Contribution (PC) on the SAC/SPA for ammonia, acid and N deposition from the application site are under the 4% significance threshold and can be screened out as having no likely significant effect. See results below.

Table 1 – Ammonia Emissions for SAC and SPA sites

Site	Critical Level Ammonia $\mu\text{g}/\text{m}^3$	Predicted Process Contribution $\mu\text{g}/\text{m}^3$	% of Critical Level
Salisbury Plain (SAC)	1	0.023	2.3%
Salisbury Plain (SPA)	1	0.023	2.3%

A precautionary critical level of $1 \mu\text{g}/\text{m}^3$ has been assigned to this site. Where the precautionary level of $1 \mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be less than the 4% insignificance threshold in this circumstance it is not necessary to further consider Nitrogen Deposition or Acidification Critical Load values.

Natural England has advised that there are no set critical levels or loads applied to the River Avon SAC. Consequently, process contributions at this site cannot be determined. No further assessment is necessary.

5.2.2 Ammonia Assessment – SSSI's

The following trigger thresholds have been applied (in agreement with Natural England) for assessment of SSSI's. If the Process Contribution (PC) is below 20% of the relevant critical level (Cle) or critical load (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 the Ammonia Screening Tool (v4.4) has indicated that the PC for Scratchbury & Cotley Hills SSSI, Tytherington Down SSSI, River Avon System SSSI and Salisbury Plain SSSI is predicted to be less than 20% Critical Level for ammonia, acid and N deposition therefore it is possible to conclude no damage. The results of the ammonia screening tool v4.4 are given in the tables below.

Table 2 Ammonia Emissions for SSSIs

Name of SSSI	Ammonia Cle ($\mu\text{g}/\text{m}^3$)	PC ($\mu\text{g}/\text{m}^3$)	PC as % of Critical level
Scratchbury & Cotley Hills	$1 \mu\text{g}/\text{m}^3$ *	0.036	3.6%
Tytherington Down	$1 \mu\text{g}/\text{m}^3$ *	0.028	2.8%
River Avon System	NA	NA	NA
Salisbury Plain	$1 \mu\text{g}/\text{m}^3$ *	0.023	2.3%

* A precautionary level of $1 \mu\text{g}/\text{m}^3$ has been used during the screen. Where the precautionary level of $1 \mu\text{g}/\text{m}^3$ is used, and the process contribution is assessed to be less than the 20% insignificance threshold in this circumstance it is not necessary to further consider Nitrogen Deposition or Acidification Critical Load values. In these cases the $1 \mu\text{g}/\text{m}^3$ level used has not been confirmed, but it is precautionary.

5.2.3 Ammonia assessment - LWS/AW/LNR

There are 11 Local Wildlife Sites (LWS) / Ancient Woodland within 2 km of Sutton Veny 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 ammonia screening tool)
2. If 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 Ammonia Screening Tool version 4.4.

Screening using Ammonia Screening Tool 4.4 has indicated that emissions from Sutton Veny Farm Poultry Unit will only have a potential impact on sites with a critical level of 1 µg/m³ if they are within 300m of the emission source. Screening indicates that beyond this distance, the Process Contribution at conservation sites is less than 1µg/m³. We therefore do not consider that there will be any significant impact on sites beyond 300m from the installation. In this case all local wildlife sites below are beyond this distance.

Table 3 – distance from source

Site	Distance (m)
Cow Down (2 parcels)	1,244
Longbridge Hill	324
Eastleigh Wood (2 parcels)	969
Woodcroft Wood	1,810
Southleigh Wood	725
Parsonage Combe	1,866
Whiten Hill Down (2 parcels)	410
Haycombe Bottom	1,278
Haycombe Down	956
Norton Bavant Meadow	1,954
Eastleigh Wood	725

The PC at these sites has been screened out as insignificant. It is possible to conclude no significant pollution will occur at these sites and no further assessment is required.

5.3 Odour Impact

Intensive farming is by its nature a potentially odorous activity and complaints concerning this type of site are not unknown, however, a well run farm should not normally give rise to any justified complaints.

Odour emissions from the Installation are one of the main concerns for members of the public who have raised objections to this proposal. The Environment Agency's approach to regulating odour emissions is set out in

our H4 Odour Management Guidance¹. Individual responses to public objections are addressed in Annex 1 of this document.

5.3.1 Odour Modelling

Odour modelling report “*An Assessment of the Odour Impact of the Revised Plans for the Redevelopment of the Broiler Chicken Rearing Unit at Sutton Veny Farm, Warminster, Wiltshire, 21st March 2014*” was submitted with the application and was considered when determining the risk of potential odour impacts from the farm. The Applicant’s modelling indicated that emissions from the proposed Installation will not result in an exceedance of the odour benchmark of 3 ou_E/m³ at residential and commercial receptors but there will be exceedance at the nearby allotments.

We have conducted check modelling and sensitivity analysis of the Applicant’s modelling using a more conservative emission rate and a lower odour benchmark of 2.5 ou_E/m³ for residential receptors. Based on maximum emission rates we predict that there will not be an exceedance of the lower odour benchmark of 2.5 ou_E/m³ at any residential receptors, or exceedance of the odour benchmark of 3 ou_E/m³ at commercial receptors. However, we predict that there is the likelihood of exceedance of the odour benchmark of 3 ou_E/m³ at the nearby allotments.

Many assumptions are made when modelling odour, and therefore model predictions are associated with a number of uncertainties. Predictions therefore are indicative only, and it is necessary to consider wider odour management at any site when making permitting decisions.

In this case, as the modelling indicates there may be potential for odour pollution, we would expect a detailed OMP to be implemented which sets out measures to ensure the site is managed in such a way that the risk of odour nuisance to the local amenity is minimised as far as practicable.

5.3.2 Odour Management Plan

To manage the potential for odour annoyance, we required the Applicant to produce and implement an OMP to ensure that the site is managed in such a way that the risk of odour nuisance to sensitive receptors is minimised as far as practicable. The OMP details operational and control measures appropriate for the management and control of odour on site.

The Applicant has submitted an odour management plan with additional contingency measures which we have reviewed as part of the application process. We are satisfied with the measures set out in the OMP; however we also require that the plan is periodically reviewed by the Applicant to ensure its continued suitability for this Installation.

1

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296737/geho0411btqm-e-e.pdf

The plan specifies that the Farm Manager is responsible for ensuring that the appropriate control measures are in place at the site to minimise odour emissions from the farm. Serviceability of poultry houses and all equipment are checked by the Farm Manager or his Deputy twice a day, and results of these checks are recorded on the crop chart, copies of which are retained on the farm for two years. In addition, an inspection of the house infrastructure is undertaken at the stocking/destocking turn-around period and any damage recorded on the house maintenance cards. All staff, temporary staff and contractors are made aware of and will adhere to the OMP.

The following extract from the Applicant's OMP describes the main measures which will be employed to manage odour emissions at the Installation:

5.3.2.1 Litter Management

The key techniques for reducing odour from poultry litter are described below:

House Structure: Poultry house structures are designed and built to BAT standards, and maintained in an appropriate condition to prevent the ingress of rain water. All walls and ceiling voids will be insulated to prevent condensation and cold bridging. Continual Damp Proof Membrane (DPM) will be laid under concrete floors to prevent moisture being drawn up from the ground. Litter will be chosen for its water absorbency and will be kept dry and friable. Sealing strips are installed on doors, baffles fitted to ventilation, and extraction systems to prevent rain water ingress into the houses.

Drinkers: Nipple drinkers are the only source of water for the birds, thus allowing on demand water with minimal spillage or wastage. Drinker equipment is checked three times per day to ensure it is at the correct height, that the water supply is at the correct pressure and there are no unseated nipples which is indicated by a full cup. Water supply readings are monitored daily; as an unexpected increase in water consumption might indicate the presence of a leak that could cause the litter to become wet and odorous. In the unlikely event of a spillage or a leak in the house, the wet litter is removed as soon as possible into a covered trailer to prevent odour emissions. The affected area of the house will be immediately replenished with fresh, dry bedding. The cause of any spillage would be investigated and measures put in place to prevent a re-occurrence.

Feeding Equipment: Feeding equipment is checked three times daily to ensure it is operating correctly and is in good condition to prevent spillages and the resultant odour caused by the decomposition of spilled feed. If a spillage is detected, the excess feed will be cleared up by carefully sweeping it into sealed bags and placed in a covered trailer to prevent the ingress of water to minimise odorous and dust emissions. The spillage area will then be reinstated with fresh bedding material. The cause of any spillage would be investigated and measures put in place to prevent a re-occurrence.

Ventilation: The poultry house ventilation system provides the pathway between the primary odour source (the houses) and sensitive receptors (neighbours, allotments). If odour could be contained within the house, there would be no pathway between the odour source and receptors, so the farm's neighbours would not be impacted by the odour. Containment, however, is not a viable option, as houses must be ventilated to maintain good welfare conditions for the birds, preventing contaminants in the house atmosphere from building up to a concentration at which the health of the birds could suffer and to prevent them from suffering heat stress in warm ambient temperatures. House temperatures exceeding 25 degrees Centigrade (°C) can be detrimental to bird welfare and aid the bacterial/enzyme activity that produces odorous gases. Adequate house ventilation also helps to control the moisture content of the litter, preventing it from becoming excessively damp which would increase emissions of ammonia and other odorous compounds.

Emission points to air (High Velocity vents; Gable end fans and Doors) are located to the east of the Installation approximately 120m away from nearest sensitive receptors (allotments) and 200m away from nearest residential receptors.

Fans are used to ventilate poultry houses and these are located on the apex of the house roofs, as far away as practicable from sensitive receptors. They are controlled by a computerised environmental control system (with manual control overrides) to ensure the house ventilation rate is appropriate for the ambient temperature and the age of the birds. The fans are single speed and more fans are automatically switched on as ambient temperature and/or the bird age increases to maintain the required air change rate and/or temperature. The Installation will use 16m/s high velocity fans, which offer sufficient dilution and dispersion of emissions on release from the Installation and further minimises the impact of odour on sensitive receptors.

Gable end fans will also be installed and will only operate during the summer time when needed to support the ventilation of the houses.

Dust Minimisation: Minimisation of dust formation and emissions is an important contribution to reducing odour emissions from the poultry houses, as dust particles can absorb odorous compounds which will then be extracted to the surrounding atmosphere. Minimisation of dust generation is achieved by means of the following techniques:

- The Installation will use bedding material that contains minimal dust.
- The Installation will use feed material supplied in crumb/pellet form. The feed is distributed to the birds in a controlled, contained way by means of sealed auger systems so that dust caused by mechanical damage to feed pellets is reduced and contained by dust filters on the hopper vents.
- Minimising disturbance of the flock helps to reduce dust generation, avoiding disturbing the bedding and raising dust. This is achieved by

allowing only essential entry to the poultry house and avoiding loud noises and other sources of disturbance when possible.

- The Applicant has stated that optimum litter moisture content will be maintained to minimise odour from the litter. Excessively moist litter produces more malodorous gasses but reduces dust emissions. Excessively dry litter generates less odorous gases or vapours but generates more dust when disturbed. Litter moisture content will be maintained in a target range of 24 to 40 percent, 60% dry matter is considered to be an effective compromise that minimises the release of excessive odorous vapours, gases, or dust from the litter.
- All internal areas are regularly blown down after each crop using high pressure air lances to remove areas of trapped dust.

Heating: LPG gas space heaters maintain the houses at a required temperature for the birds in cold ambient conditions and contribute to preventing the litter from becoming too damp. Heaters are operated automatically by the environmental control systems with house target temperature being in the range of 32^o C to 32^o C, depending on the age of the birds. The poultry houses are draft sealed and well insulated to maximise energy efficiency.

Flock Management: Bird welfare and litter odour control measures include using a phased feed diet, which results in less ammonia being produced by the birds. The health of the flock is maintained via a veterinary health plan to keep bacterial and viral challenges to a minimum by proper cleaning and disinfection between crops, vaccination of the birds and regular welfare checks by trained competent personnel. Identifying disease challenges before they affect the flock and litter conditions is not always possible and there could be odour created by an unforeseen health problem for a very short period of time. This will be monitored by checking the ratio between food and water consumption.

Litter Removal: At the end of every crop cycle, the litter is removed from the poultry houses within 24 hours to allow thorough cleaning, disinfection, and setting up for the next crop. The litter is then transferred by telescopic loaders to covered tipper lorries for transportation off site. The disturbance of this litter and bringing it outdoors for loading into the lorries has the potential to temporarily increase odour emissions due to an increase in surface area of the litter material.

In order to manage the identified risk, litter removal shall only take place within one house at any given time, which minimises the amount of disturbed litter present at any given time and reduces the likelihood of prolonged excessive odour emissions. Litter will be scraped in a large heap running the length of the centre of the buildings, whilst the doors are closed and high velocity fans operational. This will minimise the loading time of trailers and limit exposure to the atmosphere when doors are open for loading. Litter will be directly loaded onto trailers using an elevator or telescopic type machinery and measures will

be in place to prevent overloading. This is to 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. A protocol of minimised tipping will be put in place to further reduce disturbance of the litter.

Roadways and house floors are swept mechanically or blown down immediately after litter removal to avoid odour dispersion from any residual litter. Keeping trailers sheeted during transit off site prevents odour and dust escaping as the vehicles travel round and leave the site.

5.3.2.2 Dirty Water Management

During the house washing operation, a volume of wash water is produced and the following methods are used to avoid excessive odour emissions from this water:

- Dirty water is channelled straight into underground tank from internal drains using smooth sloping poultry house floors to underground pipe work. The dirty water is stored in a slurry storage system which is regularly checked for integrity. The drains will be well maintained to ensure the containment of the wash water and unrestricted flow.
- Roadways and concrete aprons are cleaned down as soon as possible after house clean out, and are maintained in a good state of repair to avoid the formation of puddles and stagnant water.
- The dirty water tanks are emptied at the end of the clean out operation and tankered off site to avoid allowing anaerobic conditions to develop, preventing the formation and release of odorous compounds from the tanks. The chemicals used for washing and disinfecting the houses ensure that there is very limited ammonia release. The dirty water is transferred directly from the houses by underground pipes to underground tanks.
- Any accumulation of stagnant water on site can also allow anaerobic conditions to develop and cause odour emissions. The concrete yards and roadways at the Installation will be designed to effectively drain all surface water flows to the underground effluent tank during clean out, preventing the accumulation of stagnant water on site.
- Clean and lightly contaminated water from the roof and the concrete yard area will drain to an attenuation pond to the east of the site boundary. The attenuation pond will allow for the temporary storage of runoff from the site and settling of any sediment to take place. Any discharge to ground from the pond will be channelled through a soakaway.

5.3.2.3 Bird Carcasses

Carcasses are stored in purpose built sealable, lockable bins. Dead birds are collected twice weekly. Bins are treated with an odour neutraliser. Following each bird depletion, carcass bins are washed and disinfected to avoid any build up. Washing will be directed to underground holding tanks and removed along with the wash waters. Carcass bins are to be located away from any sensitive receptor and where possible stored in a cool shaded areas, as detailed in the EMS.

5.3.2.4 Fuel Deliveries

Fuel deliveries to the site can produce a minor odour, mainly due to the venting of the fuel storage tank when replacement fuel is introduced. It is not possible to prevent this release, but deliveries are scheduled at times when local residents are least likely to be affected. Fuel is only normally used to test the stand-by generator so consumption is low and fuel deliveries infrequent.

5.3.2.5 Feed Deliveries

The process of delivering feed can produce odorous emissions, due to air and dust being displaced through the silo. It is not possible to prevent this venting, but as with all deliveries that could affect the farm's neighbours, feed deliveries are scheduled during normal working hours except where bird welfare could be compromised. Feed delivery systems will be sealed to minimise atmospheric dust. Cyclone dust catchment systems will be installed on all feed silos. They are replaced when they become excessively contaminated with feed dust. In the event of a spillage, all feed and dust is cleared up immediately and bagged and placed in a covered trailer to prevent odour emissions and ingress of water. This is also a bio-security requirement. Annual condition checks will be carried out and documented to maintain the integrity of the system.

5.3.3 Our Conclusions

Odour modelling was submitted with the Application, this modelling indicated that there was potential for an unacceptable level of odour pollution from this Installation, but it did not predict actual impact.

The Applicant included sensitive receptors at nearby residential areas, isolated farms closest to the poultry farm, commercial properties and allotments. The Applicant concludes that under the proposed scenario, there will not be an exceedance of the $3 \text{ ou}_E/\text{m}^3$ benchmark at the majority of the sensitive receptors. They predict an odour concentration of greater than ou_E/m^3 at three sensitive receptors; these 3 sensitive receptors are at an allotment and it is unlikely to be as sensitive as residential receptors due to factors such as quality of area, perceived frequency and duration of odour. H4 odour guidance states that: *"Some receptors are more sensitive than others. Domestic residences, or a pub with a beer garden are more likely to be sensitive than an industrial complex or passers-by."* While it does not

specifically mention allotments, it implies that areas where people do not live, are less sensitive and may not warrant the same benchmark as residential receptors.

Nonetheless, to manage the potential for odour nuisance arising as a result of the proposal, we required the Applicant to produce and implement an OMP to ensure that the site is managed in such a way that the risk of odour nuisance to the local amenity is minimised as far as practicable. The plan supplied detailed operational and control measures appropriate for the management and control of odour on site. This OMP was reviewed as part of the application process. The Applicant is required to periodically review this OMP to ensure its continued suitability for this Installation.

We are satisfied that the OMP has been produced in line with Appendix 4 of the H4 Odour Guidance and is in line with the industry code of good practice. We are confident the control measures to be employed on site will be robust enough to cope with the proposed activity at the Installation and will ensure there is no significant odour pollution. We have included our standard odour condition (condition 3.3) 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 Applicant has used appropriate measures, including, but not limited to, those specified in their approved odour management plan, to prevent or where that is not practicable to minimise the odour. The Applicant is required 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.

To ensure that the above mentioned controls and measures are effective in minimising odour from the Installation we have adopted a precautionary approach. An improvement condition has been added to the permit requiring the Applicant to undertake a 12 month monitoring assessment to identify odours, measure their offensiveness and record annoyance potentially caused by odour at nearby receptors. The assessment will commence from the date of the first bird placement.

In the unlikely event that monitoring results indicate unacceptable levels of odour emissions or a breach of the environmental permit conditions occurs, stocking density assessments, bird place reduction trials and continuous odour monitoring will be carried out to establish the optimum stocking levels required to minimise the environmental impact of the site on sensitive receptors.

5.4 Noise

Intensive farming by its nature comprises of activities that have the potential to cause noise pollution and complaints concerning this type of site are not unknown. However, a well run farm should not normally give rise to any justified complaints. Noise pollution from the Installation is one of the concerns for members of the public who have raised objections to this proposal. The

Environment Agency's approach to regulating noise emissions and individual responses to public objections are addressed in Annex 1 of this document.

5.4.1 Noise Risk Assessment

The Applicant has carried out a noise risk assessment and an acoustic survey to assess the impact of noise from ventilation fans (Addendum to Noise Impact Analysis of Replacement Poultry Housing Buildings...", dated November 14 2014) in line with BS 4142.

The report recommended that a limit of 52 dB LA_{eq} should apply to the sound power level generated at the outdoor termination of each fan. With this limit in place, the report predicts that the sound levels from all of the fans operating together are predicted at 31 dB LA_{eq} at the dwelling 125m to the north, 28 dB LA_{eq} at the dwelling 210m to the east and 27 dB LA_{eq} at the dwelling 250m to the north.

The report concludes that the sound levels from the fans reaching the nearest dwellings would be rated at least 5 dB below the measured background sound levels at all times. The only exception to this is at Java Bungalow at night where the rating level from the fans and the background are both "very low" by the definition given in BS 4142 such that its rating method cannot be used.

We have assessed the Applicant's noise risk assessment and have concluded that since the results of the acoustic survey are indicative and not actual, it is necessary to consider wider noise management at the site. At our request the Applicant has submitted a detailed noise management plan (NMP), which sets out measures to ensure the site is managed in such a way that the risk of noise annoyance is minimised as far as practicable.

5.4.2 Noise Management Plan

To manage the potential for noise pollution arising from everyday operation of the site, we required the Applicant to provide a Noise Management Plan (NMP). The NMP is intended to ensure that the site is managed in such a way that the risk of noise nuisance to sensitive receptors is minimised as far as practicable. We have assessed the NMP and are satisfied it details operational and control measures appropriate for the management and control of noise on site. It states that the Farm Manager is responsible for ensuring that the appropriate control measures are in place to minimise noise arising from site activities.

The following extract from the Applicant's OMP describes the main measures which will be employed to manage noise emissions at the Installation:

5.4.2.1 Vehicle movements into and around the site

Noise from vehicles (specifically Heavy Goods Vehicles) accessing and manoeuvring within the site will be minimised by implementing a 5 mph restriction once on site. Vehicle movement to the site will be restricted to the

hours of 8am – 6pm. The Farm manager or his deputy will ensure that revving of engines will be kept to a minimum at all times and reversing sirens will not be used on site when safe to do so.

5.4.2.2 Feed Deliveries

There will be a standing request for the use of modern well silenced vehicles. Delivery drivers will be requested to deliver feed under minimum pressure. All silos are positioned at the furthest locations possible away from any sensitive receptor without comprising operational requirement. With adequate storage capacity on site, feed deliveries are restricted to the 8am – 6pm from Monday to Friday and 9am – 12am on Saturday. No deliveries are requested on Sundays.

5.4.2.3 Ventilation systems

Noise associated with the operation of the ventilation system on site will be managed as follows;

- All fan chimney backdraft shutters are mechanically operated and sit on a tight rubber dampener to minimise movement while non-operational.
- All fans are inspected and maintained at the end of each crop cycle to maintain operational efficiencies.
- Air chamber is internally clad and insulated to minimise any echoing effects.

De-populating: Noise that may arise as a result of thinning and final depletion of poultry houses will be managed by ensuring that catch the team load no more than 2 batches of birds at any one time and will operate on a “one on one off” basis such that there will be only one bird catcher in a poultry house at a time to minimise movements to a specific area.

Other procedural restrictions include; machine operators are to work inside buildings, there is to be no scraping of external concrete aprons – these areas are to be mechanically brushed only. Only approved contractors trained in the catching of poultry are to be instructed to load birds unto trailers. Loading will be scheduled so that birds are quickly loaded onto trailers and removed from site once complete.

5.4.2.4 Cleanout of poultry houses

Noise that may arise as a result of litter removal, washing and disinfection of poultry houses will be managed as follows:

- All vehicle movements are restricted to the hours of 8am – 8pm from Monday to Friday and 9am – 12am on Saturday. There will be no deliveries on Sundays.

- Modern low noise pumps will be used for all clean out operations by approved contractor.
- All wash pumps will be located within the service area (concrete apron) at the western side of the site.
- High pressure air compressors are to be positioned within the building being blown down to help reduce external noise arising from their operations.
- High volume long reach loaders are to be loaded at the Eastern end of the site only and are to do so as close to the building as possible.

5.4.2.5 Standby Generators

Noise from the operation and testing of the standby generator will be managed by siting the standby generator next to the site office away as far as possible from any sensitive receptor. The building in which the generator will be housed is an insulated timber constructed building with an internal acoustic lining to help minimise any excessive noise. As it is a requirement to ensure the generator is in working condition at all times, the power unit must be run and documented for two hours every week. This will be done by two single one hour tests every Tuesday and Thursday between the hours of 10am – 2pm.

In order to minimise the effects of any potential noise, all activities, vehicle movements and ventilation will be restricted to the east side of the site, as far away as practicable from sensitive receptors. Only vehicles entering and exiting the site will use the western end of the site.

5.4.3 Our Conclusion

We are satisfied that the control measures employed on site are robust enough to cope with the proposed activity at the Installation. We consider our standard noise condition will be sufficient and have included condition 3.4 in the permit requiring 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 Applicant has used appropriate measures, including, but not limited to, those specified in their approved noise management plan, to prevent or where that is not practicable to minimise noise and vibration. The Applicant is required 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.

We have also adopted a precautionary approach to ensure that the above mentioned controls and measures are effective in minimising noise emanating from the Installation. An improvement condition has been added to the permit requiring a 12 month monitoring assessment to identify noise emissions and record all annoyance potentially caused by noise from the site at all nearby receptors. The assessment will commence from the date of the first bird

placement. In the event that monitoring results indicate unacceptable levels of noise emissions or breaches of the environmental permit conditions occur, stocking density assessments, stocking reduction trials and ongoing monitoring of noise will be carried out to identify and implement measures that will minimise the environmental impact of the site on sensitive receptors. It will also include a review of the ventilation systems and noise management plan.

5.5 Bioaerosols Impact

The proposed intensive farm at Sutton Veny Farm Poultry Unit comprises of activities that have the potential to generate bioaerosols which can be released to the atmosphere and transported by wind to sensitive receptors nearby. However, there is currently limited scientific evidence surrounding the human health impacts of bioaerosols and of any potential dose-response relationship. Therefore no defined safe limits in respect to bioaerosol concentrations from intensive farming Installations have been set. The potential risks posed by the generation and dispersion of bioaerosols by intensive farming Installations should be assessed and where possible mitigated to protect public health.

5.5.1 Site Specific Bioaerosol Risk Assessment

To assess the risk of bioaerosol emissions from the proposed Installation and any potential adverse impact on nearby receptors, the Applicant was required to carry out a Site Specific Bioaerosol Risk Assessment (SSBRA).

Given the uncertainties around the dose-response, source characteristics of bioaerosols and rates of atmospheric decay, modelling of the likely concentrations of bioaerosol downwind of the site was impractical at this time.

The Applicant has subsequently submitted a SSBRA along with monitoring data from another operational site to support their risk assessment and made a case to use the results as part of the assessment. The SSBRA concludes that there is a low probability of exposure at all identified primary sensitive receptors and that the overall magnitude of bioaerosols risk is low.

The Applicant has proposed a number of management procedures and operational controls to manage potential bioaerosol emissions and offsite impacts identified as a result of the risk assessment. These include:

Poultry Production

- Day old chicks will be transported to site in enclosed vehicles; therefore the potential for bioaerosols release during transport onto and off the site will be limited.
- Doors of the poultry houses will remain shut at all times other than for broiler delivery, pick-up or during clean out. This will minimise the risk of fugitive release during production.

- Litter will be maintained at a moisture content of approximately 35%, through control of the ventilation system, internal temperature, bedding quantities and relative humidity. This will help to reduce the potential for airborne particulates inside the buildings during production.
- Air will be extracted from the poultry houses and released to the atmosphere by roof mounted fans. The roof mounted fans will provide effective dilution and dispersion of emissions at high level to minimise off-site impact of bioaerosols.

Feed Management

- No milling of feed will take place at the proposed poultry site. All feed will be supplied pre-blended as crumb or pellets. These control measures will help to ensure that only quality feed, with minimum dust potential will be used on-site during production to reduce the potential for particulate release.
- Feed will be delivered to the site in fully enclosed transport vehicles and blown directly from the transport into purpose built covered feed silos located next to the broiler houses, to minimise the potential for fugitive bioaerosols release during transport and reception of feed.
- Feed storage silos will be regularly checked for signs of damage or wear to minimise the potential for fugitive bioaerosols release.
- Feed will be conveyed directly from the storage silos to the poultry houses using an enclosed conveyor system, to minimise the potential for bioaerosols release during distribution of feed to the poultry units.

Depopulation and Clean-out

- Once started, the clean out operation will be completed in as little time as possible whilst taking account of the above recommended restrictions.
- Spent litter will not be stored on site; instead litter removed from the poultry houses will be loaded onto vehicles and transported off site. This will reduce the potential for 'stripping' of bioaerosols off the surface of litter after removal from the houses following depopulation.
- If an elevator is to be used for loading litter into lorries, the drop height will be minimised and the elevator covered; this will reduce the potential for bioaerosols release. If a loader vehicle is to be used, litter will be carefully tipped into lorry trailers positioned at the entrance to each house.
- All vehicles used for the transport of litter off-site will be sheeted; therefore, the potential for bioaerosols release during transport off-site will be limited.

The SSBRA should be reviewed after the first year of operation, or sooner if there are any changes to the proposed site design or activities.

5.5.2 Our Conclusions

The SSBRA identified a low probability of exposure at all identified primary sensitive receptors and concluded that the overall magnitude of risk is low. Based on our current understanding, current evidence and review of the submitted risk assessment, we believe that with regards to this permit application, bioaerosols do not pose a significant risk. We have taken into consideration the prevalent wind-direction relative to sensitive residential receptors; the dilution and dispersion effect of high velocity roof fans, as well as their relative position; the background concentration and other sources of bioaerosols in the local area. The use of BAT and good practice will further ensure that bioaerosols emissions are minimised. We have also considered the potential for significant impact on the nearest sensitive receptors (allotments)

We agree with the report conclusions that bioaerosols guideline values are precautionary and any exceedance is not automatically unacceptable. We consider the modelled calculations of the dilution and dispersion effect of the ventilation system (based on high velocity fans with efflux velocity of 11m/s) to be practicable and conservative as the underlying assumption is based on no atmospheric “decay” or reduction in viable bioaerosols concentration. Furthermore, the Applicant has made new proposals to install high velocity fans, with an efflux velocity of 16.0 m/s, which is likely to further improve dilution and dispersion. The Applicant has also repositioned all ambient emission points (HV vents; Gable end fans and Doors) further away from sensitive receptors following the production of the SSBRA report. These are located to the east of the Installation approximately 120m away from nearest sensitive receptors (allotments) and 200m away from nearest residential receptors.

We consulted Public Health England about the application and they concluded that *“Provided the Installation complies with the Regulatory requirements and the regulator is satisfied that the techniques proposed by the Applicant represent Best Available Techniques (BAT), there is unlikely to be any significant adverse impact upon human health.”*

We also consulted the Animal Health and Veterinary Laboratories Agency (now Animal and Plant Health Agency) about the application and they commented that *“...Consideration should be given to the management of waste and litter on the premises to prevent any possible spread of diseases and protect the environment”*.

The management of waste and litter has been addressed by the operating techniques for the site and condition 1.4.1 and 1.4.2 of the permit.

Emissions of bioaerosols will be regulated through condition 3.2.1 ‘Emissions of substances not controlled by an emission limit’ of the permit. In the unlikely event of bioaerosols causing pollution following commissioning of the Installation, the Applicant is required under condition 3.2.2 of the permit to

undertake a review of site activities, provide an emissions management plan and to undertake any mitigation recommended as part of that report, once agreed in writing with the Environment Agency.

Under the Environmental Permitting Regulations we are required to review permits periodically and additionally may do so at any time in the light of new information. In relation to bioaerosols emissions, we will take into account any new information on emissions or the health effect of pollutants in future permit reviews. For intensive farming, due to the impending revision of the relevant EU guidance, we anticipate doing a review of this sector in 2015/2016.

In conclusion, the main environmental issues with respect to the proposed application are odour, noise and bioaerosols. We consider the techniques for managing these are BAT and will prevent and where that is not practicable minimise emissions and that those emissions will not cause significant harm to human health or pollution of the environment.

Annex 1: Consultation, web publicising and newspaper advertising responses

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 decision is summarised in this Annex. Copies of all consultation responses have been placed on the Environment Agency and Local Authority public registers.

The Application was advertised on GOV.UK at the Environment Agency's website from 15th May to 13th June 2014 and in the Wiltshire Star on 15 May 2014. Copies of the Application were placed on the Environment Public Register at Environment Agency's Rivers House Sunrise Business Park Higher Shaftesbury Road Blandford Forum Dorset DT11 8ST and we also sent a copy to Wiltshire Council for its own Public Register. 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: -

- Wiltshire County Council (Planning and Environmental Health departments)
- Wiltshire County Primary Care Trust
- Health and Safety Executive
- Public Health England
- Animal and Plant Health Agency
- Natural England (appendix 11 only)

1) Consultation Responses from Statutory and Non-Statutory Bodies

Response received from
Public Health England (PHE) – dated 01/07/14
Brief summary of issues raised
<p>PHE notes that the Installation has the potential to cause pollution such as fugitive emissions (ammonia, bio-aerosols and particulates) and pollution to ground and surface water in the form of leachate and spillages. It also recognises that the potential exists for the proposed Installation to cause nuisance in respect of odour and noise from the operation itself and any application being granted needs to ensure these are managed.</p> <p>PHE also suggest that due to the close proximity of the residential and commercial receptors, the permit should contain a condition for undertaking quantitative odour and dust monitoring in the event of complaints substantiated by the regulator. PHE also suggest that in addition to minimising fugitive emissions from the road, dust suppression methods should be included in the permit conditions.</p> <p>PHE concludes that provided the Installation complies with the Regulatory</p>

requirements and the regulator is satisfied that the techniques proposed by the Applicant represent best available technique (BAT), there is unlikely to be any significant adverse impact upon public health.

Summary of actions taken or show how this has been covered

We are satisfied that operating in accordance with the permit will mean no significant impact on human health.

Odour and other fugitive emissions from the site will be regulated by condition 3.2.1 and 3.3.1 in the permit. The Applicant is also required to carry out a 12 month odour monitoring programme from the start of operations.

The Applicant must carry out the activities in accordance with the operating techniques included in the Odour Management Plan. In the event that activities at the site give rise to pollution, we can request a revised odour management plan from the Applicant using our powers under condition 2.3.1(b) of the permit. The Applicant is aware that if odour complaints are substantiated, then they would need to take steps beyond those we would normally expect to address the issues. This could include additional odour abatement measures and/or partial de-stocking of the houses. Ultimately the permit could be revoked if odour became an unacceptable issue.

Emissions that occur as a result of actions outside the site boundary are outside the scope of the permit.

Response received from

Animal and Plant Health Agency – dated 25/07/14

Brief summary of issues raised

APHA commented that consideration should be given to the management of waste and litter on the premises to prevent any possible spread of diseases and protect the environment.

Summary of actions taken or show how this has been covered

The management of waste and litter on the premises has been addressed by the operating techniques for the site and condition 1.4.1 and 1.4.2 of the permit.

Wiltshire County Primary Care Trust, Wiltshire County Council (Planning and Environmental Health departments) and Health and Safety Executive were also consulted, but did not provide any response.

2) Consultation Responses from Members of the Public and Community Organisations

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 National Planning Framework / Planning Policy Wales 2002. 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 the Environmental Permitting Regulations.

a) Representations from Parish Councils

Response received from
Longbridge Deverill Parish Council - dated 7/06/14
Brief summary of issues raised
The Environment Agency should ensure that the Applicant complies with all environmental obligations and regulations, both on the site and on those areas which are affected by the application.
Summary of actions taken or show how this has been covered
The proposed Installation will be regulated by the permit conditions that control all onsite activities and compliance with these conditions will be enforced by our local area environment management officers.
In the event that the Applicant fails to comply with permit conditions, We will take appropriate action in accordance with our enforcement and sanctions statement and guidance.

Response received from
Sutton Veny Parish Council - dated 10/06/14
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Application fails to take account of the close proximity of allotments and the impact of odour emissions, bioaerosols distribution and noise on allotment users and the food they produce. 2. Odour Modelling: it is unclear why the model is centred in the south western corner of the houses and if it were translated to the southern corner, allotments will experience up to 10.0 ou_E/m³. 3. Bioaerosols: Allotments are relative closer to the poultry buildings than stated in application and as a consequence will lead to increased bioaerosols concentrations at allotments. Allotments are so close to the site that they should be considered as experiencing the same bio-aerosols levels as those experienced within the site. 4. Noise: there is no consideration of the noise impact of high velocity roof fans on sensitive receptors.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. The applicant has made changes to the site layout. All ambient emission points (HV vents; Gable end fans and Doors) are positioned to the east of the Installation approximately 120m away from nearest sensitive receptors (allotments) and 200m away from nearest residential receptors. We have received risk assessments of the impact of odour, bioaerosols and noise emissions from the Applicant and we

consider these assessments to have sufficiently identified the risk and management procedures for addressing these concerns. Further details of these measures have been addressed in sub-sections on odour impact (odour modelling and odour management plan); noise impact (noise modelling and noise management plan) and Bioaerosols Impact (Site Specific Bioaerosols Risk assessment) in sections 5.3, 5.4 and 5.5 above.

2. The plot used in the Applicant's odour modelling shows the 98th percentile 1 hourly odour concentration at each point on the grid, therefore the plot as presented by the Applicant is likely to capture odour concentrations at the benchmark of 3 ou_E/m³ when the wind is blowing in all directions. The model plot is centred in the south west because that is the direction of the prevailing wind and therefore the worst case scenario. The 5 odour unit contour extends to a greater distance to the east as a result of the south western prevailing wind and therefore is likely to have higher concentrations most of the time. The higher concentrations are unlikely to move over to the allotment as the highest concentrations are centred over the stacks themselves.
3. The Applicant has made changes to the site layout. All ambient emission points (HV vents; Gable end fans and Doors) are positioned to the east of the Installation approximately 120m away from nearest sensitive receptors (allotments) and 200m away from nearest residential receptors. Given the proposed ventilation system will provide considerable dispersal and dilution of bioaerosols concentrations, it is impractical to assume that receptors at the allotments will experience the same bioaerosols concentrations as staff within the enclosed poultry houses. The risks posed by bioaerosols emissions from the site have been assessed as part of this application. Based on our current understanding, current evidence and review of the submitted risk assessment, we believe that with regards to this permit application, bioaerosols do not pose a significant risk. Please see section 5.5 on Bioaerosols Impact (Site Specific Bioaerosols Risk assessment).
4. The risks posed by noise emissions from the site have been assessed as part of this application. The risk assessment indicates that noise emissions may be categorised as environmentally insignificant. The risk assessment did not however predict actual impact and as such a potential for impact exists. To manage this potential for impact, we required the Applicant to create and implement a NMP to ensure that the site is managed in such a way that the risk of noise pollution to the local amenity is minimised as far as practicable. It details operational and control measures appropriate for the management and control of noise on site. This NMP was reviewed as a part of the application process for this variation and the Applicant is required to periodically review this NMP to ensure its continued suitability for this Installation.

c) Representations from Individual Members of the Public

A total of 7 responses were received from members of the public and a consultant (Southwest Environmental Limited) commissioned by a local action group. A majority of the responses referred to the same concerns and were similar to those considered above. Only those issues additional to those already considered are addressed in detail below:

Response received from
Southwest environmental Limited (on behalf of local action group - dated 10/06/14)
Brief summary of issues raised
<p>The permit application;</p> <ol style="list-style-type: none"> 1. Does not sufficiently gauge the impact of environmental emissions i.e. odour, bioaerosols, dirty water, noise. 2. Does not provide sufficient detail of management techniques for those impacts that have been identified. It is the consultants opinion that a full site specific EMS should be submitted with the application. 3. Does not comply with BAT with respect to the following; <ol style="list-style-type: none"> a. Water management b. Energy Management c. Emissions Management d. Manure Storage 4. Has inadequate surface water management system.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. We have received risk assessments of the impact of odour, bioaerosols and noise emissions from the Applicant and we consider these assessments to have sufficiently identified the risk and management procedures for addressing these concerns. Please see sub-sections on odour impact (odour modelling and odour management plan); Bioaerosols Impact (Site Specific Bioaerosols Risk assessment) and noise impact (noise risk assessment and noise management plan) in the Key Issues section above. We have also received additional information in relation to the assessment of the risks posed by dirty water that was not part of the original application, the key elements of which are as follows: <ol style="list-style-type: none"> a. There are two linked 20,000-litre underground tanks (total 40,000-litre capacity) for storing dirty water. Each of the four buildings will have a direct link to the storage facility via an internal drain pickup and sealed underground pipe work. b. The tanks are 20% oversized to account for any periods of prolonged rainfall during depletion / cleanout to ensure maximum capacity is always available. c. The tanks are emptied at the end of each day while cleanout is in progress, before washing commences and at the end of the process. On final emptying, the tanks are swilled under back pressure via the vacuum tanker to ensure any settlement is removed. d. The tanks will be alarmed to avoid any risk of overtopping.

We consider these measures to be appropriate.

2. We expect a full site specific EMS is required to be in place for inspection on or before the commissioning of the site and to that effect we have included a pre-operational condition in the permit. However, during the determination of the permit application the submission of a full site specific EMS was not required as it will include a host of documents that are outside the requirements for permit determination. We have however requested and received relevant key documents (such Risk Assessments; Odour and Noise Management Plans; Operating Techniques; Technical Standards) required for the determination of the permit, which would eventually comprise the EMS.
3. The Applicant has committed to operating their farm using the Best Available Techniques (BAT) as specified in the European Intensive Farming BAT Reference document (BREF). To ensure that the site meets Best Available Techniques (BAT), a pre-operational condition has been added that states that at least 4 weeks before stocking poultry houses, the Applicant shall inform the Environment Agency in writing whether the poultry housing and other infrastructure (including the installation of high velocity roof fans with efflux velocity of 16m/s, drainage system, attenuation pond) has been constructed as per initial proposals and provide an assessment of what is built against Best Available Techniques as specified in the European Intensive Farming BAT Reference document (BREF).
4. We consider the proposals for surface water management to be adequate. The site is currently located outside flood zone 2 and 3 risk areas and as such no additional measures are required.

Response received from
Member of Public
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Restriction on HGV vehicle movement to and from the site. 2. Light disturbance arising from the site. 3. Restriction of operating times at the site.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. 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 permit decision making process. 2. See response to point 1 We do not impose restrictions on operating times as adequate protection is delivered by our standard conditions without this. The Applicant has however proposed to restrict HGV vehicle movement, Feed deliveries and washing operations at the site to 8am – 6am (Monday to Friday) and 9am – 12am Saturday.

Response received from
Member of Public
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Concerns about historic loss of amenity as a result of odour from previously unregulated site. 2. Sensitivity of existing businesses to odour and infection.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. Please see sub-section on odour impact (odour modelling and odour management plan) in the Key Issues section above. 2. Please see sub-section on bioaerosols impact (Site Specific Bioaerosols Risk assessment) in section 5.5 above and Public Health England response dated 01/07/14 above.

Response received from
Member of Public
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Unclear how manure will be stored on site.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. Manure storage: There are no proposals to store manure on site.

Response received from
Member of Public
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Noise impact arising from the operation of ventilation fans not fully considered. 2. The impact of high and sustained concentrations of bioaerosols arising from the site.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. Please see sub-section on noise impact (noise risk assessment and noise management plan) in section 5.4 above. 2. Please see sub-section on bioaerosols impact (Site Specific Bioaerosols Risk assessment) in section 5.5 above.

Response received from
Member of Public
Brief summary of issues raised
Confirmation that all environmental matters have been considered to take care of unpleasant emissions from the farm.
Summary of actions taken or show how this has been covered
We have considered all relevant emissions and are satisfied that that the proposed permit will protect the environment and human health, see section 5 above.

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 and Local Authority public registers.

The "minded to issue" draft decision document and draft permit was advertised on GOV.UK at the Environment Agency's website from 10th February to 9th March 2015. Copies of the Application were placed on the Environment Agency Public Register at Environment Agency's Rivers House Sunrise Business Park Higher Shaftesbury Road Blandford Forum Dorset DT11 8ST.

Response received from		
Sutton Veny Parish Council, members of the public and their representative (SWEL)		
Brief summary of issues raised		
<ul style="list-style-type: none">• Odour modelling: concerns about the accuracy of odour modelling carried out by the applicant.• Dust: respondents raised concerns about the risk assessment of dust as it relates to PM_{2.5} dust particles and the risk to public health and animal health.• Noise: concerns about the effectiveness of noise management measures with respect to operations at night.		
Summary of actions taken or show how this has been covered		
<p>Odour Modelling</p> <p>We do not recommend any applicant to submit modelling predictions without taking into account the 98th percentile; this has been suggested by SWEL and requests other methods be used. The Environment Agency's H4 guidance states that the modelled 98th percentile of hourly average concentrations over a year should be used to compare against exposure benchmarks based on the 98th percentile. This approach is commonly used in the UK and beyond for predictive modelling and is derived from scientific studies showing a clear relationship between modelled impacts and highly annoyed persons in the community. It is not clear what the plot produced by SWEL represents but if by "un-manipulated" they mean the 100th percentile the plot would not be relevant for comparison with the H4 benchmarks and hence cannot indicate a likelihood of complaints using the H4 benchmarks.</p> <p>We use the 98th percentile method to indicate the likelihood of "unacceptable odour pollution" in general from predictive dispersion modelling. The approach cannot model all infrequent and short-lived odour events. If the predictive modelling using the H4 approach indicates the proposed farm is permissible, an odour management plan that complies with the best available techniques</p>		
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(BAT) should be used to prevent and minimise odour from onsite sources. These plans should be made to minimise impacts from all sources (including sources other than the roof vents included in the modelling) that may contribute to significant but infrequent high odour concentrations and annoyance if not adequately controlled and contained. However this does not imply that any infrequent events will necessarily lead unacceptable odour pollution.

In our review of the Applicant's odour modelling assessment we found no evidence that a substantial annoyance was likely from point sources based on the H4 criteria. We are satisfied that the use of Best Available Techniques set out in the Applicant's odour management plan will ensure the minimisation of point-source and fugitive odour emissions and will prevent significant pollution of the environment or harm to human health. Emissions of odour are regulated through the permit by condition 3.3.1. As part of the Odour management plan for the site, the Applicant is also required to carry out a 12 month odour monitoring programme from the start of operations. In the event that activities at the site give rise to pollution, we can request a revised odour management plan from the Applicant using our powers under condition 2.3.1(b) of the permit.

Dust:

Risks to Public Health: We have consulted Public Health England (PHE) on this application and they have commented that provided the Installation complies with the Regulatory requirements and the Environment Agency (the regulator) is satisfied that the techniques proposed by the Applicant represent best available technique (BAT), there is unlikely to be any significant adverse impact upon public health.

Risks to Animal Health: We have consulted the Animal and Plant Health Agency (APHA) and they asked that consideration should be given to the management of waste and litter on the premises to protect the environment and prevent any possible spread of diseases.

Management of Dust emissions: We are satisfied that the use of BAT and good practice such as dry cleaning the sheds prior to litter/waste removal and closed shed doors during bird depopulation, will ensure dust (including PM_{2.5}) minimisation at the site. Emissions of dust are regulated through the permit by condition 3.2.1. In the unlikely event of dust causing pollution following commissioning of the installation, the Operator is required under condition 3.2.2 to undertake a review of site activities, provide an emissions management plan and to undertake any monitoring and mitigation measures recommended as part of that report, once approved in writing by the Environment Agency.

Noise

The Applicant provided a revised noise management plan, which includes a

restriction on vehicle movement, depopulation of birds and shed clean out to the hours of 8am to 6pm. This means that intensive farming activities with the potential for noise emissions will not be carried out during night time hours. The operator is required by the conditions of the permit to adhere to these and other measures set out in the Noise management plan and will be regulated accordingly for any breach.

We are satisfied that the use of Best Available Techniques set out in the Applicant's noise management plan will ensure the minimisation of noise emissions and will prevent significant pollution of the environment or harm to human health. Emissions of noise are regulated through the permit by condition 3.4.1. As part of the Noise management plan for the site, the Applicant is also required to carry out a 12 month noise monitoring programme from the start of operations. In the unlikely event that activities at the site give rise to pollution, we will request a revised noise management plan from the Applicant using our powers under condition 2.3.1(b) of the permit, and require the Applicant to undertake monitoring and/or mitigation recommended as part of that plant plan, once approved in writing by the Environment Agency.

Response received from

Longbridge Deverill Parish Council

Brief summary of issues raised

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| <ol style="list-style-type: none"> 1. Concerns about the spread of Compila Bactor and "Bird Flu" and steps taken to minimise the spread of these two infections especially to the staff who will work at the site. 2. Monitoring of site operations and compliance with permit conditions during the first year of operations |
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Summary of actions taken or show how this has been covered

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| <ol style="list-style-type: none"> 1. The environmental permit conditions provide protection to people and the environment by ensuring that the operator uses Best Available Techniques. Issues regarding health and safety of staff are regulated by the health and safety legislation and the Health and Safety Executive (HSE). We have consulted the HSE but received no comments from them. We have also consulted Public Health England on this application and they have commented that provided the Installation complies with the Regulatory requirements and the regulator is satisfied that the techniques proposed by the Applicant represent Best Available Technique (which we are), there is unlikely to be any significant adverse impact upon public health. 2. The installation will be regulated by the local Environment Agency staff to ensure full compliance with all conditions in the permit. |
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Response received from
Member of Public
Brief summary of issues raised
<ol style="list-style-type: none"> 1. Concerns were raised over the risk of disease outbreak on site such as campylobacter and why there are no conditions in the permit for regulating disease outbreak. 2. Concerns were raised about operator competence.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. See response to comments made by Longbridge and Deverill Parish Council. Whilst there are no specific conditions relating to disease, as explained above, the permit as a whole will protect both the environment and human health. 2. The operator of this permit is Amber Valley Real Estate Investment Limited. The National Enforcement Database has been checked for environmental convictions against this operator and no relevant convictions were found. The operator satisfies the criteria in our Regulator Guidance Note (RGN) 5 on Operator Competence.

Response received from
Member of Public
Brief summary of issues raised
<ul style="list-style-type: none"> • Clarification on the restriction of operating times at the installation and vehicle movements within the site boundary.
Summary of actions taken or show how this has been covered
<p>The environmental permit does not directly impose restrictions on the operating times at the installation or on site vehicle movements. These matters may be addressed by the local planning authority. However, activities authorised by a permit are required to be carried out in ways that should prevent significant pollution at any time. The operator has proposed in their noise management plan to restrict vehicle movements within the site boundary to the hours of 8am to 6pm as part of management measures to reduce noise impact. They are required by the permit to operate in line with their noise management plan.</p>