

Environment Agency permitting decisions

Bespoke permit

We have decided to grant the permit for Park Farm South operated by RA Holdings Limited.

The permit number is EPR/FP3132RC

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

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

Structure of this document

- Description of main features of the installation
- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Description of the main features of the Installation

The installation comprises 4 poultry houses, numbered 1 to 4, for the purpose of rearing broilers with a combined capacity of 285,000 bird places.

The poultry houses are ventilated using a negative pressure system by side wall inlets and roof fans with an emission point higher than 5.5 metres above ground level and an efflux speed greater than 7 metres per second. All houses use gable end fans for hot weather cooling. Clean roof and yard water is directed to the attenuation pond on the northern part of the site which then discharges to an unnamed off-site ditch. Contaminated dirty water will be diverted to dirty water tanks.

Houses are heated by 2 biomass boilers each with a thermal input of 1,147 kW burning virgin wood pellets. There will be an associated approximate fuel storage of 40 tonnes.

At depletion the litter will be removed from the site and exported for fuel to nearby a nearby power station.

Fallen stock will be collected and recorded daily. These will be collected by a licensed collection agent under the National Fallen Stock Scheme.

Key issues of the decision

Industrial Emissions Directive (IED)

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

Groundwater and soil monitoring

As a result of the requirements of the Industrial Emissions Directive, all permits are now required to contain a condition relating to protection of soil, groundwater and groundwater monitoring. However, the Environment Agency's H5 Guidance states **that it is only necessary for the operator to take samples** of soil or groundwater and measure levels of contamination where there is evidence that there is, or could be existing contamination and:

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

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

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

The site condition report (SCR) for Park Farm South (dated 16/01/16) demonstrates that there are no hazards or likely pathway to land or groundwater and no historic contamination on site that may present a hazard from the same contaminants. **Therefore, on the basis of the risk assessment presented in the SCR, we accept that they have not provided base line reference data for the soil and groundwater at the site at this stage.**

Odour

There are sensitive receptors within 400 metres of the installation therefore an Odour Management Plan has been submitted as required in chapter 3, section 3.3 of guidance Sector Guidance Note (SGN) How to comply – Intensive Farming - The EPR Sector Guidance Note 6.09 for intensive pig and poultry farmers, Version 2, published January 2010 (SGN EPR 6.09).

This plan is considered acceptable having been assessed against the requirements of Integrated Pollution Prevention and Control (IPPC) SRG 6.02 (Farming): Odour Management at Intensive Livestock Installations and our 'Top Tips Guidance and Poultry Industry Good Practice Checklist' and with regard to the site specific circumstances at the installation. The operator is required to manage activities at the installation in accordance with condition 3.3.1 of the environmental permit and this odour management plan. The odour management plan includes odour control measures, in particular, procedural controls addressing odours by using automated high velocity ventilation system with gable end fans, sealed feed delivery, storage, selection and containment, immediate feed spillage clean up, carcasses stored and sealed with frequent disposal, dirty water monitored and drained to dirty water tanks, no waste production/storage on site, careful litter and dirty water management during poultry house clean out operations, litter monitored and kept dry, monitoring of bird health/sickness, and provision of a complaints procedure. The odour management plan is required to be reviewed at least every 4 years and/or after a complaint is received, whichever is the sooner.

There is the potential for odour pollution from the installation, however the operator's compliance with their Odour Management Plan, submitted with this application, should minimise the risk of odour pollution beyond the installation boundary and the risk of odour pollution at sensitive receptors beyond the installation boundary is not considered significant. We, the Environment Agency, have reviewed and approved the Odour Management Plan and consider it complies with the requirements of our H4 Odour management guidance note. We agree with the scope and suitability of key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the operator.

Noise

There are sensitive receptors within 400 metres of the installation boundary as stated above in the odour section. The applicant has therefore submitted a Noise Management Plan (NMP) as part of the application supporting documentation.

Operations with the most potential to cause noise nuisance have been assessed as those involving delivery vehicles travelling to and from the farm, vehicles on site, feeding system, operation of ventilation fans, testing of

alarm system and standby generator, noise from birds, bird restocking bird removal and loading on to vehicles, clean out operations, staff and contractors, and repairs. The noise management plan covers control measures including regular monitoring and maintenance of ventilation fans, use of large capacity lorries fitted with silencers, regular monitoring and maintenance of feed systems, speed restrictions for vehicles, fuel deliveries restricted to daytime hours, pager/mobile phone alarm system, noise minimised during bird catching i.e. no shouting, crates placed carefully, minimising forklift travel to lorries and screen curtains for lorries, litter removed during working hours, and maintenance/repairs carried out during working hours.

There is the potential for noise from the installation beyond the installation boundary, however the operator's compliance with the Noise Management Plan, submitted with this application, should minimise the risk of noise pollution beyond the installation boundary and the risk of noise pollution at sensitive receptors beyond the installation boundary is not considered significant. We, the Environment Agency, have reviewed and approved the Noise Management Plan. We agree with the scope and suitability of key measures but this should not be taken as confirmation that the details of equipment specification design, operation and maintenance are suitable and sufficient. That remains the responsibility of the operator.

Dust and bioaerosols

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

The applicant has also submitted a fugitive emissions assessment, written in accordance with Environment Agency's EPR 6.09 How to Comply with your Environmental Permit for Intensive Farming Appendix 11 guidance. We consider that the measures outlined in the fugitive emissions assessment will help to minimise the potential for bioaerosol emissions from the installation.

Biomass boilers

The applicant is applying to include 2 biomass boilers with a net rated thermal input of 2,294 kW.

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

- the fuel will be derived from virgin timber, miscanthus or straw, and;
- the biomass boiler appliance and installation meets the technical criteria to be eligible for the Renewable Heat Incentive, and;
- the aggregate boiler net rated thermal input is:
 - A. less than 0.5MWth, or;
 - B. less than 1MWth where the stack height is greater than 1 metre above the roof level of adjacent buildings (where there are no adjacent buildings, the stack height must be a minimum of 3 metres above ground), and there are:
 - no Special Areas of Conservation, Special Protection Areas, Ramsar sites or Sites of Special Scientific Interest within 500 metres of the emission point(s);
 - no National Nature Reserves, Local Nature Reserves, ancient woodlands or local wildlife sites within 100 metres of the emission point(s), or;
 - C. less than 2MWth where, in addition to the above criteria for less than 1MWth boilers, there are:
 - no sensitive receptors within 150 metres of the emission point(s).

This is in line with the Environment Agency's May 2013 document "Biomass boilers on EPR Intensive Farms", an assessment has been undertaken to consider the proposed addition of the biomass boilers.

The biomass boilers do not meet the requirements of criteria A, B, and C above as there are sensitive receptors within 150 metres of the emission points.

The assessment of emissions from the biomass boilers has been carried out in accordance with Environment Agency guidance on Environmental Risk Assessment, using the in-house Environment Agency Air Quality Modelling and Assessment Unit (AQMAU) screening tool.

The screening tool was run to calculate the process contribution (PC) from the boilers at the most sensitive local receptors (Carnalea and Park Farm). The biomass boilers were screened with the following input parameters:

Flue diameter	0.4 m
Stack height (from ground level)	8.5 m
Adjacent Building heights	5.5 m
Flue nominal load temperature	149°C
Flue minimum temperature	76°C
Thermal input in MW or kW per hour	1,147 kW each
Exit velocity in m/sec	4.8 – 6.2 m/s
NO _x concentration in mg/Nm ³	151
CO concentration in mg/Nm ³	100-150
PM ₁₀ (dust) concentration in mg/Nm ³	53
The exact grid reference of the stacks:	485616,374767 485616,374760
The exact grid reference of the centre of the farm	485650,374750
Closest sensitive receptors:	
Carnalea	486307,375157
Park Farm	485571,374679

The AQMAU screening tool was used to assess the impact of carbon monoxide (CO), nitrogen dioxide (NO₂) and particulates (PM₁₀) emissions from the proposed boiler units on the nearby sensitive receptors. Sulphur dioxide (SO₂) has not been assessed due to the boiler fuel being clean woodchip which is likely to contain very little or no sulphur. CO results have produced negligible values when compared with the relevant Environmental Standard, and therefore no further assessment has been carried out on this pollutant.

In this assessment the individual PC impact values were combined together by use of the AQMAU screening tool (to give a total cumulative PC from the 2 boilers) and compared to the relevant environmental standards in the following way. In line with Environment Agency guidance H1 Annex F, process contributions can be considered insignificant if:

- the long term process contribution is <1% of the long term environmental standard; and
- the short term process contribution is <10% of the short term environmental standard.

Maximum off-site ground level impacts at the most significantly impacted human receptor locations (Carnalea and Park Farm) are summarised in the tables below.

Table 1 - Predicted Short Term Impacts

Receptor Name	Pollutant	EQS / EAL $\mu\text{g}/\text{m}^3$	Back-ground Conc. $\mu\text{g}/\text{m}^3$ [1]	Process Contribution (PC) $\mu\text{g}/\text{m}^3$	PC as % of EQS / EAL
Carnalea	NO ₂ (1 hr)	200	9.9	4.7	2.4
Carnalea	PM ₁₀ (24 hr)	50	18.6	0.2	0.4
Park Farm	NO ₂ (1 hr)	200	9.6	14.2	7.1
Park Farm	PM ₁₀ (24 hr)	50	18.9	3.2	6.4

Note [1] The background concentration is taken as twice the long term background level for Short Term Environmental Quality Standard (EQS) / Environmental Assessment Level (EAL) standards referenced to an hourly averaging value.

Note [2] Where the PC is demonstrated to be less than 10% of the short term EQS/EAL, a level below which we consider to indicate insignificant impact, further consideration of the PEC is not required.

Table 2 - Predicted Long Term Impacts

Receptor Name	Pollutant	EQS / EAL $\mu\text{g}/\text{m}^3$	Back-ground Conc. $\mu\text{g}/\text{m}^3$ [1]	Process Contribution (PC) $\mu\text{g}/\text{m}^3$	PC as % of EQS / EAL	Predicted Environmental Concentration (PEC) $\mu\text{g}/\text{m}^3$	PEC as % of EQS/EAL [1] [2]
Carnalea	NO ₂	40	9.9	0.2	0.5	10.1	26
Carnalea	PM ₁₀	40	18.6	0.07	0.2	18.7	45
Park Farm	NO ₂	40	9.6	1.6	4	11.2	29
Park Farm	PM ₁₀	40	18.9	0.88	2.2	19.8	47

Note [1] Where the PC is demonstrated to be less than 1% of the long term EAL, a level below which we consider to indicate insignificant impact, further consideration of the PEC is not required.

Note [2] Where the PEC is demonstrated to be greater than 70% of the long term EAL, a level below which we consider to indicate as not being a significant impact, more detailed assessment is required.

Screening out emissions which are insignificant

In accordance with our guidance, the short term impacts of PM₁₀ and NO₂ are considered insignificant as the short term impact is <10% of the short term EQS/EAL at the sensitive receptors

In addition, the long term impacts of PM₁₀ and NO₂ at Carnalea are considered insignificant as the long term impact is <1% of the long term EQS/EAL.

Emissions unlikely to give rise to significant pollution

As shown in table 2, the emissions for long term NO₂ and PM₁₀ at Park Farm have been assessed as being unlikely to give rise to significant pollution in that the predicted environmental concentration (PEC) will be less than the long term EQS/EAL (taking expected modelling uncertainties into account).

For these emissions we have considered the headroom between their PECs and the relevant EQS/EAL standards relative to the predicted PC value for the emission. From this analysis we consider that there will not be any exceedance of an EQS/EAL or any significant pollution caused by the operation of the installation.

Conclusion

All emissions either screen out as being considered insignificant, or where they do not screen out as insignificant are considered unlikely to give rise to an exceedance of any environmental standard or cause significant pollution.

Ammonia emissions

There are 11 Local Wildlife Sites (LWS) and Ancient Woodlands (AW) within 2 km of the installation.

Initial screening using ammonia screening tool version 4.4 has indicated that emissions from Park Farm South will only have a potential impact on the LWS and AW sites with a precautionary critical level of 1µg/m³ if they are within 455 metres of the emission source.

Beyond 455 m the PC is less than 1µg/m³ and therefore beyond this distance the PC is insignificant. In this case the Local Wildlife Sites beyond this distance (see table below) screen out of any further assessment.

Table 3 – LWS/AW Assessment

Name of SAC/SPA/Ramsar	Distance from site (m)
Lodge Farm Grassland LWS	759
The Ring LWS	1,748
Disney Nook Lane Drain LWS	1,763
West Wood LWS	1,899
Road Wood LWS	1,058
Ox Pasture Drain LWS	2,006
Darnsyke Marsh LWS	741
Spring Wood LWS	1,126

Screening using the ammonia screening tool version 4.4 has determined that the PC on the Local Wildlife Site and Ancient Woodland sites in the table below for ammonia emissions, nitrogen deposition and acid deposition from the application site are under the 100% significance threshold and can be screened out as having no likely significant effect. See results below.

Table 4 - Ammonia emissions

Site	Critical level ammonia $\mu\text{g}/\text{m}^3$	Predicted PC $\mu\text{g}/\text{m}^3$	PC % of critical level
Blackthorn Wood LWS	3*	1.304	43.5
Unnamed AW	3*	1.304	43.5
Unnamed AW	3*	1.061	35.4

* CLe 3 applied as no protected lichen or bryophytes species were found when checking easimap layer

Table 5 – Nitrogen deposition

Site	Critical load kg N/ha/yr [1]	Predicted PC kg N/ha/yr	PC % of critical load
Blackthorn Wood LWS	10	6.774	67.7
Unnamed AW	10	6.774	67.7
Unnamed AW	10	5.512	55.1

Note [1] Critical load values taken from APIS website (www.apis.ac.uk) – 10/12/15

Table 6 – Acid deposition

Site	Critical load keq/ha/yr [1]	Predicted PC keq/ha/yr	PC % of critical load
Blackthorn Wood LWS	10.92	0.484	4.4
Unnamed AW	10.92	0.484	4.4
Unnamed AW	10.92	0.394	3.6

Note [1] Critical load values taken from APIS website (www.apis.ac.uk) – 10/12/15

No further assessment is required.

Annex 1: decision checklist

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

Aspect considered	Justification / Detail	Criteria met
Yes		
Consultation		
Scope of consultation	<p>The consultation requirements were identified and implemented. The decision was taken in accordance with our Public Participation Statement and our Working Together Agreements.</p> <p>For this application we consulted the following bodies:</p> <ul style="list-style-type: none"> • Health and Safety Executive • Local Authority Environmental Health Department • Public Health England • Director for Public Health 	✓
Responses to consultation and web publicising	<p>The web publicising and consultation responses (Annex 2) were taken into account in the decision.</p> <p>The decision was taken in accordance with our guidance.</p>	✓
Operator		
Control of the facility	<p>We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on what a legal operator is.</p>	✓
European Directives		
Applicable directives	<p>All applicable European directives have been considered in the determination of the application.</p>	✓
The site		
Extent of the site of the facility	<p>The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility including discharge points.</p> <p>A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.</p>	✓
Site condition report	<p>The operator has provided a description of the condition of the site.</p> <p>We consider this description is satisfactory. The decision was taken in accordance with our guidance on site</p>	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	condition reports and baseline reporting under IED–guidance and templates (H5).	
Biodiversity, Heritage, Landscape and Nature Conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the site. See key issues for further details.</p>	✓
Environmental Risk Assessment and operating techniques		
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p> <p>The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant.</p> <p>The AQMAU tool v5.2 was used to assessed the environmental risk from the operation of the biomass boilers. The risk was considered environmentally insignificant (see results above in Key Issues section).</p>	✓
Operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes.</p> <p>The operating techniques are as follows:</p> <ul style="list-style-type: none"> • dirty water storage facilities are in place on site; • nipple drinkers are used to reduce wastage of water and maintain dry litter; • chemical storage is within a purpose built store on site that is fully bunded; • all fuels are stored in bunded fuel stores; • emergency generator on site in case of power failure; • carcasses stored in sealed bins before being sent for rendering by an approved contractor; • the fuel is derived from virgin timber (biomass pellets); and 	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	<ul style="list-style-type: none"> the biomass boilers and their installation meets the technical criteria to be eligible for the Renewable Heat Incentive. <p>The proposed techniques for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for the facility. The permit conditions ensure compliance with relevant reference documents (BREFs) and Best Available Techniques (BAT) Conclusions.</p>	
The permit conditions		
Use of conditions other than those from the template	Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template, which was developed in consultation with industry having regard to the relevant legislation.	✓
Raw materials	<p>We have specified limits and controls on the use of raw materials and fuels.</p> <p>We have specified that only virgin timber (including wood chips and pellets), miscanthus or straw shall be used as a fuel for the biomass boiler. These materials are never to be mixed with, or replaced by, waste.</p>	✓
Incorporating the application	<p>We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process.</p> <p>These descriptions are specified in the Operating Techniques table in the permit.</p>	✓
Operator Competence		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with our guidance on what a competent operator is.	✓
Relevant convictions	<p>The Case Management System has been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found.</p>	✓
Financial provision	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with our guidance on what a competent operator is.	✓

Annex 2: Consultation and web publicising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Director of Public Health on 01 April 2016
Brief summary of issues raised
<p><i>‘Providing the permit holder takes all appropriate measures to prevent or control pollution including dust and ammonia in accordance with guidance and best practice, no significant adverse effects on the health and wellbeing of the local population as a whole can be foreseen.</i></p> <p><i>I have, however, seen the detailed response Public Health England (PHE) has made to the consultation which, although it raises no significant concern, does highlight possible risk to people living at the nearest residence 250 m from the site. Please, therefore, given particular attention to the PHE position statement on the public health implications of intensive farms in determining this application. There is emerging evidence of the potential for bioaerosol and particulate emissions from intensive farming industries to lead to poor air quality in the near vicinity.’</i></p>
Summary of actions taken or show how this has been covered
<p>These comments have been taken into account in the determination of the application and subsequent standard permit conditions applied. Fugitive emissions including dust and particulate emissions have been assessed in the H1 Risk Assessment and we have determined it in line with our position on bioaerosols.</p>

Response received from
Public Health England (PHE) on 17 March 2016
Brief summary of issues raised
<p><i>‘..It is expected that the design, construction and management of the installation, particularly taking into account ventilation of the facility, feeding mechanisms and waste management will prevent or minimise emissions of bioaerosols and that this will be controlled through standard permit conditions...’</i></p> <p><i>‘...Recent studies on large poultry farms^{1,2} have indicated exceedance of PM₁₀ objectives of the National Air Quality Strategy to be dependent on environmental circumstances such as topography and raised background concentrations from additional PM₁₀ sources nearby.</i></p> <p><i>PHE expects that the use of BAT will minimise the amount of dust released, but recommends that the Regulator requests that the applicant reports dust</i></p>

¹ South Norfolk Council (2006) PM₁₀ Emissions from poultry rearing – a detailed assessment.

² Shutt, M. Hickley, G. & Sheppard, V. (2005) Study of ambient Air quality at Newborough July 2004 to June 2005 Main report.

complaints. It is anticipated that further evidence on the potential for intensive farming industries to result in PM₁₀ emissions will become available over the next few years. Consequently we suggest to the Regulator that PHE should be given the opportunity to incorporate such evidence into future reviews of Environmental Permits...'

Summary of actions taken or show how this has been covered

The operator will use BAT with regard to the design, construction and management of the facility where necessary. High velocity ventilation will be used to minimise concentration of airborne emissions on sensitive receptors from the poultry houses. Feeding mechanisms, including delivery and storage, will be managed and monitored regularly with feed delivery sealed to minimise dust and spillages cleared immediately. No waste will be produced or stored on site.

The comments of PHE have been taken into account in the determination of the application, and the standard permit conditions applied are designed to ensure that emissions remain at an acceptable level.

The operator has procedures in place for reporting odour, noise and dust complaints and details of these complaints. We, the Environment Agency, require the operator to ensure their stated practices are incorporated into the management of the installation.

Response received from

Health and Safety Executive on 07 March 2016

Brief summary of issues raised

No concerns raised.

Summary of actions taken or show how this has been covered

None required.

Reponses not received

The Local Authority Environmental Health department was also consulted; however, a consultation response was not received.

Web publicising

This proposal was also publicised on the Environment Agency's website between 03 March 2016 and 05 April 2016, but no representations were received during this period.