

Supporting Information for an Application for a Bespoke Environmental Permit for EPR/EP3204SE/A001 Lower Barn Poultry Unit, Thetford Road, Garboldisham, Diss, Norfolk, IP22 2SP

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B3.3c SUMMARY OF ENVIRONMENT MANAGEMENT SYSTEM

1. EMS is in accordance with the Environment Agency (2010); EPR 6.09 Sector Guidance Note; How to comply with your environmental permit for intensive farming; Version 2 and the general conclusions in EU Joint Research Centre Science for Policy Report (2017); Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs.

2. Normal operations

Daily records will be kept on all aspects of the farm's operation including:

- Water consumption
- Feed consumption and deliveries
- Bird mortalities
- Poultry house temperature and humidity
- Waste collections.

Daily inspection by staff around the site to ensure equipment is operating correctly.

3. Maintenance schedule and records

- A programme of planned preventive maintenance will be carried out on all plant and equipment including the ventilation fans, feeding and water systems
- Inspection and maintenance schedules based on manufacturer's recommendations
- No incinerator
- Back-up generator will be tested weekly to ensure it is working properly
- Buildings and equipment on site will be regularly inspected and checked for visual signs of leakage, corrosion, structural damage, security, and correct operation
- A record of all faults and maintenance work and inspections will be kept in the site office.

4. Incidents and abnormal operations

Measures will be in place to identify incidents and abnormal operations. Staff will be trained to be able to detect abnormal operation and investigate its causes and get back to normal operation and ensure the problem does not reoccur.

5. Complaints system

Complaints will be logged and referred to the Site Manager for investigation and follow-up action. A record will be kept of any remedial action to prevent or minimise the causes and we will respond to concerns raised by the local community as appropriate.

6. Accidents

Site has an accident management plan which will be implemented if an accident occurs. Events or failures that could damage the environment have been identified using the H1 environmental risk assessment for accidents. The format of the site Accident Management Plan is in accordance with the Environment Agency's accident prevention and management plan at

<https://www.gov.uk/guidance/develop-a-management-system-environmental-permits#accident-prevention-and-management-plan>.

7. Training

- All staff are suitably qualified to work at the installation
- All staff will receive formal training from both the Site Manager and an external training provider
- All staff will receive formal training on health and safety, the accident management plan and will be trained about the requirements of the environmental permit and pollution prevention
- New staff will be mentored as part of their on-the-job training
- Staff and contractors will have defined roles
- Training and instruction of staff and contractors will be recorded in the training plan.

8. Site security

- Gates and poultry houses will be securely locked at night
- Fuel oil tanks and LPG tanks will be secure and locked
- There is no public footpath through any part of the site.

9. Site closure plan

A site closure plan will be prepared and reviewed in pursuance of any conditions in the Permit or inspection scheme. Such a plan will include removal of any potentially polluting substances and decommissioning and removing equipment, plant, buildings, hard standing and underground structures.

10. Certification

The installation will be operated in accordance with a poultry assurance certification scheme including the EMS.

11. Climate change risk assessment

Planned duration of operation will be more than 5 years, so a climate change risk assessment will be provided with the permit application using the Anglian river basin district risk assessment worksheet at <https://www.gov.uk/guidance/adapting-to-climate-change-risk-assessment-for-your-environmental-permit>

B5.5c NON-TECHNICAL SUMMARY

Lower Barn is located in a rural setting area approx. 1km east of the village of Garboldisham in Norfolk, south of the Thetford Road (A1066) with access from Thetford Road. The installation will be approximately centred on National Grid Reference TM 01833 81052.

Proposing to construct four poultry houses with places for rearing 194,000 broiler chickens. Day old chicks will be brought into the houses from a local hatchery and reared up to around 31 days of age, then a quarter will be removed or 'thinned', and the remainder reared up to around 38 days of age and all transported to a local abattoir. There would be approximately 7.6 flocks per annum.

Poultry houses will be designed and constructed to modern specifications – wide span steel portal frames, concrete panel walls and concrete floors poured over a continuous damp proof membrane, with insulated low-pitched roofs and dark green steel cladding. A concrete apron will be provided for access and loading purposes. Dirty and surface water drainage will be separated to prevent pollution in any watercourse, underlying geology, and groundwater.

Clean roof water and surface water runoff will be directed into a Sustainable Urban Drainage System (SuDS) designed to contain up to and including the 1 in 100-year rainfall event including climate change. To prevent flooding on site and flooding from instantaneous run-off from the site on the surrounding land. Clean roof water and runoff from the open concrete apron (excluding during periods of litter removal and washout) will be channelled via stone-filled French drains with perforated pipes and solid pipes into an on-site engineered attenuation pond, next via a flow control device into the off-site ditch on the southwestern corner of the site, identified as a tributary of the Little Ouse River. Some clean water will infiltrate into the ground via perforated pipes in the French drains and from the attenuation pond. Clean run-off the open concrete apron (excluding during periods of litter removal and washout) will be channelled into catch pits and via diverters into solid pipes into the attenuation pond.

The concrete apron will become dirty when the litter is being removed and the houses washed out. Dirty water will be channelled with kerbing into the catch pits and via the diverter valves into package underground concrete encased dirty water tanks.

Prior to chicks arriving new bedding material will be spread in a uniform layer over the entire floor area using a proprietary blend of dust extracted chopped straw/wood shavings or chopped straw. The poultry houses are heated, and temperature controlled. Forced ventilation will be installed in all the poultry houses with side inlets and high velocity extraction fans (vents greater than 5.5 metres high and fan efflux velocity greater than 7m/s) on the ridge of the roofs with open exhaust outlet cones. Ventilation will be computer controlled to remove moisture under all weather and seasonal conditions while meeting the physiological needs of the chickens. Regularly adjusting ventilation to match age, and weight and health requirements of the chickens, and to keep droppings and litter dry and friable to reduce ammonia, odour, and dust emissions. Gable end fans will be installed on the northern gable ends to provide additional cooling for chickens in hot weather.

Nipple drinking systems with cups will be installed to provide chickens drinking water without spillages and keep litter dry. Feed pellets (crumbled for first 2 weeks for chicks) will be supplied from a local mill to provide chickens balanced diets with decreasing levels of crude protein and phosphorous, meeting their physiological needs at each stage of rearing without wasteful excess

nitrogen and phosphorous being excreted into the litter. Feed will be provided to the chickens in pan feeders to reduce wastage and minimise dust.

Mortalities will be removed daily and stored in secure containers to minimise odour and flies, for removal under the Fallen Stock Scheme. At the end of the rearing periods the houses will be depopulated, and the litter removed. The houses and equipment will be pressure washed, disinfected, and dried, before restocking. The litter will be exported off-site in covered trailers for spreading on land to confer agricultural benefit or supplied as fuel to a local power station.

Storing feedstuffs in package silos, package feed delivery equipment, control rooms, stores and storing mains water, liquid petroleum gas for heating, diesel in a package back-up generator, and dirty water in package underground tanks are all directly associated activities. An additional building provides an office, mess room and welfare facilities.

There are nature conservation within 5km of Lower Barn Poultry Unit, including Redgrave & South Lopham Fens Ramsar, Waveney & Little Ouse Fens Special Area of Conservation (SAC), Breckland Special Protection Area (SPA), and The Blo' Norton & Thelnetham Site of Special Scientific Interest (SSSI) is within 2km. There are sensitive receptors within 400m, including dwellings and agricultural premises so the operator will be adhering to approved odour and noise management plans to prevent or minimise causing annoyance.

B8.8a TECHNICAL STANDARDS

1. Checked operation of the 4No. houses for rearing poultry, ancillary buildings and drainage and associated structures will be in accordance with the Environment Agency (2010); EPR 6.09 Sector Guidance Note; How to comply with your environmental permit for intensive farming; Version 2 and the general conclusions in EU Joint Research Centre Science for Policy Report (2017); Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs.
2. No necessary improvements have been identified to meet compliance requirements.

Summary of main measures used to control emissions from the poultry houses

3. Selection and use of feed

Operator will be able to use a nutritional strategy to reduce levels of nitrogen excreted and consequently, ammonia and phosphorous excretion while meeting the nutritional needs of the chickens.

New package feed storage silos, augers, pipes, and feeders will be designed to accommodate the required feeding regime for rearing broiler chickens using pan feeders.

4. Housing design and management

(a) Housing

Poultry houses will be designed and constructed to modern specifications – wide span steel portal frames, concrete panel walls and concrete floors poured over a continuous damp proof

membrane and insulated low pitched roofs and dark green steel cladding. Walls and roofs fully insulated with a U-Value of approximately 0.4 W/m²/°C to reduce condensation and heat loss.

(b) Litter

Litter will be kept loose and friable and regularly inspected to ensure it does not become excessively wet or dry and steps taken to rectify any changes to the quality of the litter.

(c) Temperature

Temperature in the houses will meet the health and welfare needs for the age and number of chickens. Liquid petroleum gas heaters will be regularly spaced in the houses to prevent cold spots and extremes of temperature. Extraction fans will be fitted with back draught shutters to prevent draughts and unnecessary heat loss. Houses will be accessed via a control room/vestibule area, which prevents draughts.

(d) Ventilation

Package computer-controlled ventilation systems will be installed to control ventilation rates, so they are appropriate to the age, weight, and health and welfare needs of the chickens.

- Operated to achieve optimum humidity levels for the stage of production in all weather and seasonal conditions
- Control of minimum ventilation rates planned to avoid build-up of moisture
- Houses will be managed to maintain litter as dry and friable as possible
- Dust controlled through the management of litter and air quality
- High velocity ventilation (vents greater than 5.5 metres high, fan efflux velocity greater than 7m/s) and uncapped outlets on the ridge of the roofs will avoid dust deposition on the roofs and contamination of rainwater run-off.
- Uncontaminated run-off water from roofs and open concrete hardstanding (excluding during periods of depopulating and washing out) will be conveyed into an off-site ditch.

(e) General management

In accordance with the management system at the farm, the buildings and equipment will be regularly inspected and well maintained. The floors and walls of the houses will be kept clean.

(f) Livestock numbers and movements

A system will be in place to record the number of bird places and bird movements on and off the site. These records will be available for inspection.

(g) Slurry spreading and manure management planning – off site activity

- Litter will not be stored at the installation.
- Litter will not be spread on land belonging to the operator.

- Litter will be exported from the installation. Records will be kept of the quantities and the date of transfer, for example to a power station for recovery or third party for spreading on land and the names and addresses of the receiving farms.
- The receiver of the litter will confirm the litter is spread to land in accordance with the Code of Good Agricultural Practise or that the spreading will be in accordance with a manure management plan for the receiving land.

(h) Fugitive emissions

Appropriate measures for preventing and minimising fugitive emissions will be in place with provisions for:

- Buildings and equipment will be well maintained and kept in good repair
- Areas around buildings will be kept free from build-up of litter and spilt feed
- Drainage from the poultry houses and water from cleaning out will be collected in package underground storage tanks shown on the site drainage plan
- Diverter valves shown on the site drainage plan will be used during wash down periods to prevent the contamination of surface water systems and to divert the wash water into the dirty water tanks. Clean drainage systems will not be contaminated.
- Drainage from yards contaminated by litter or wash water will be collected in the dirty water tanks
- The dirty water collection systems and package storage tanks will be designed to deal with the volumes of wash water generated and manufactured to conform to the specification in SGN EPR6.09. Footbaths will be managed so that they do not overflow and spent disinfectants will be emptied into the dirty water tank.
- Wheel washings will be prevented from entering into surface or groundwater.

(i) Dust

The H1 Environmental Risk Assessment submitted with application EPR/EP3204SE/A001 shows dust sources have been identified as having potentially moderate and minor significance. There are no sensitive receptors within 100m so the Operators are not obliged to create and implement a Dust and Bio-aerosol Management Plan but will be implementing mitigation and management measures: in accordance with SGN EPR6.09:

- Poultry feed will be stored in package feed silos with augers and pipes and protected from collision damage by careful siting relative to traffic flows – in between the poultry houses, or with measures such as provision of kerbs or other markers to stop reversing vehicles or use of barriers in more vulnerable locations.
- Feed will be delivered directly from suppliers and blown directly into silos.
- Feed will be delivered into the houses by package augers and pipes.
- No milling or mixing of feed will take place at the farm.
- Used litter will not be stored on the site.

(j) Carcase management

Dead chickens will be disposed of in accordance with Animal By-Products Regulations, stored in secure, covered containers and frequently collected by an approved transporter under the National Fallen Stock Scheme.

(k) Flies

Appropriate actions will be implemented to prevent, and control flies should problems occur.

(l) Measures for bunding and containment

i. Agricultural fuel oil and other chemical storage

A package back-up generator with integrally bunded fuel tanks will be installed and will meet the requirements of the Water Resources (Control of Pollution)(Silage, Slurry and Agricultural Fuel Oil) Regulations 2010 (SSAFO Regulations). The generator will be regularly inspected.

Pesticides and veterinary medicines will be kept in stores that are resistant to fire, dry, frost-free, and secure against unauthorised access and capable of retaining any spillage.

ii. Feedstuffs

Poultry feedstuffs will be stored in package feed silos with augers, pipes with careful siting relative to traffic flows – in between the houses, or with measures such as provision of kerbs or other markers to stop reversing vehicles or use of barriers in more vulnerable locations.

(m) Odour

The H1 Environmental Risk Assessment submitted with application EPR/EP3204SE/A001 shows odour sources have been identified as having potentially moderate and minor significance. There are sensitive receptors within 400m, so the Operators have created and will implement an Odour Management Plan in accordance with SGN EPR6.09.

(n) Noise and vibrations

The H1 Environmental Impact Assessment submitted with application EPR/EP3204SE/A001 shows noise sources have been identified as having potentially moderate significance. There are sensitive receptors within 400m, so the Operators have created and will implement a Noise Management Plan in accordance with SGN EPR6.09.

B8.8a contd. Review of best available techniques (BAT) to control emissions from houses for rearing poultry intensively

BAT	Description	How is the site demonstrating compliance
BAT 1	<i>In order to improve the overall performance of farms, BAT is to implement and adhere to an environmental management system (EMS) that incorporates all of the following features [in the BAT conclusions document].</i>	<p>Checked Operator will be holding a written EMS comprising a suite of documents to help identify and minimise the risk of pollution. This is also a general requirement condition in the permit and includes:</p> <ul style="list-style-type: none"> • Commitment of the management, including senior management • Environmental policy that includes the continuous improvement of environmental performance • Planning and establishing necessary procedures including the H1 Environmental Risk Assessment, and maintenance and accident management plans • Checking performance and taking corrective action • Review of the EMS • Implementing noise and odour management plans.
BAT 2	<i>In order to prevent or reduce the environmental impact and overall performance, BAT is to use all the techniques given [in the BAT conclusions document].</i>	<p>Checked Operator will be using most of the BAT:</p> <ul style="list-style-type: none"> • Proper location in order to ensure adequate distances from sensitive receptors is not wholly unavoidable. Owner is developing on land already owned and the poultry houses will be downwind of sensitive receptors most of the time. • Educating and training staff – Operators and stockmen have formal qualifications. • Prepared an emergency plan for dealing with unexpected emissions and incidents such as pollution of water bodies – including a drainage plan, H1 Environmental Risk Assessment, and equipment for dealing with a pollution incident e.g. diverter valves, spill kit equipment. • Regularly checking, repairing, and maintaining structures and equipment such as water and feed supply systems, ventilation systems and temperature sensors, silos and transport equipment, cleanliness of the farm and pest management. • Storing dead animals in such a way as to prevent or reduce emissions.
BAT 3	<i>In order to reduce total nitrogen excreted and consequently ammonia emissions while meeting the nutritional needs of the animals, BAT is to use a diet formulation and nutritional strategy which includes one or a combination of the</i>	<p>Checked Operator will be using a combination of BAT:</p> <ul style="list-style-type: none"> • Reducing crude protein content by using a N-balanced diet based on the energy needs and digestible amino acids • Multiphase feeding with a diet formulation adapted to the specific requirements of the production period • Addition of controlled amounts of essential amino acids to a low crude protein diet • Use of authorised feed additives which reduce total nitrogen excreted.

	<i>techniques given [in the BAT conclusions document].</i>	According to Environment Agency Permitting Decisions document “Based on our review, and engagement with industry, we expect all operators to meet the BAT-associated excretion levels”.
BAT 4	<i>In order to reduce total phosphorous excreted while meeting the nutritional needs of the animals, BAT is to use a diet formulation and nutritional strategy which includes one or a combination of the techniques given [in the BAT conclusions document].</i>	Checked Operator will be using a combination of BAT: <ul style="list-style-type: none"> • Multiphase feeding with a diet formulation adapted to the specific requirements of the production period • Use of highly digestible inorganic phosphates for the partial replacement of conventional sources of phosphorous in the feed.
BAT 5	<i>In order to use water efficiently, BAT is to use a combination of the techniques given [in the BAT conclusions document].</i>	Checked Operator will be using a combination of BAT: <ul style="list-style-type: none"> • Keep a record of water use • Detect and repair water leakages • Use high pressure cleaners for cleaning poultry housing and equipment • Select and use suitable equipment (e.g. nipple drinkers) for rearing broiler chickens, while ensuring water availability (ad-libitum).
BAT 6	<i>In order to reduce the generation of waste water, BAT is using a combination of the techniques given [in the BAT conclusions document].</i>	Checked Operator will be using a combination of BAT: <ul style="list-style-type: none"> • Keep the fouled yard areas as small as possible • Minimise use of water • Segregate uncontaminated rainwater from waste water streams that require treatment.
BAT 7	<i>In order to reduce emissions to water from waste water, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	Checked Operator will be using one of the BAT: <ul style="list-style-type: none"> • Drain waste water to dedicated containers.

BAT 8	<i>In order to use energy efficiently in a farm. BAT is to use a combination of the techniques given [in the BAT conclusions document].</i>	<p>Checked Operator will be using a combination of BAT:</p> <ul style="list-style-type: none"> • Package LPG heating, and high velocity ventilation (with outlet vents greater than 5.5 metres high and fan efflux velocity greater than 7m/s) will be installed in all the poultry houses • Package computer controlled environmental systems to manage and optimise heating/cooling and ventilations systems • Insulation of walls and ceilings • Use energy efficient lighting, where appropriate.
BAT 9	<i>In order to prevent, or where that is not practicable, to reduce noise emissions, BAT is to set up and implement a noise management plan, as part of the environmental management system (see BAT 1), that includes the following elements [in the BAT conclusions document].</i>	<p>The H1 Environmental Risk Assessment submitted with application EPR/EP3204SE/A001 shows noise sources have been identified as having potentially moderate significance. There are sensitive receptors within 400 metres and the Operators have created a Noise Management Plan (NMP) in accordance with SGN EPR6.09 'How to comply' including:-</p> <ul style="list-style-type: none"> • A protocol containing appropriate actions and timelines • A protocol for conducting noise monitoring • A protocol for response to identified noise events. <p>Operators have no recollection of having substantiated any historical noise incidents, complaints, or concerns so a noise reduction programme to implement elimination and/or reduction measures is not considered necessary at this time.</p>
BAT 10	<i>In order to prevent, or where that is not practicable, to reduce noise emissions, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	<p>Checked Operator will be using a combination of BAT:</p> <ul style="list-style-type: none"> • Equipment location • Operational measures • Low noise equipment • Noise abatement <p>BAT have been identified in the Noise Management Plan.</p>
BAT 11	<i>In order to reduce dust emissions from each animal house, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	<p>The H1 Environmental Risk Assessment submitted with application EPR/EP3204SE/A001 shows dust sources have been identified as having potentially moderate and minor significance. There are no sensitive receptors within 100m so the Operators are not obliged to create and implement a Dust and Bio-aerosol Management Plan but checked operators will be using a combination of BAT:</p> <ul style="list-style-type: none"> • Mostly use a mix of straw and coarser wood shavings • Applying fresh litter using a low-dust littering technique (e.g. by hand) • Ad-libitum feeding for the broiler chickens • Use pelleted feed (Starter crumbs for chicks for first 2 weeks, then pellets)

BAT 12	<p><i>In order to prevent, or where that is not practicable, to reduce odour emissions from a farm, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes the following elements [in the BAT conclusions document].</i></p>	<p>The H1 Environmental Risk Assessment submitted with application EPR/EP3204SE/A001 shows odour sources have been identified as having potentially moderate and minor significance. There are sensitive receptors within 400m, so the Operators have created and will implement an Odour Management Plan (OMP) in accordance with SGN EPR6.09 'How to comply' including:-</p> <ul style="list-style-type: none"> • A protocol containing appropriate actions and timelines • A protocol for conducting odour monitoring • A protocol for response to identified odour nuisance. <p>Operators have no recollection of any substantiated historical odour nuisance so an odour reduction programme to implement elimination and/or reduction measures is not considered necessary at this time.</p>
BAT 13	<p><i>In order to prevent, or where that is not practicable, to reduce odour emissions and/or odour impact from a farm, BAT is to use a combination of the techniques given [in the BAT conclusions document].</i></p>	<p>Checked Operators will be using a combination of BAT:</p> <p>Using poultry housing which implements one or a combination of principles:</p> <ul style="list-style-type: none"> • Keeping the chickens and the surfaces dry and clean • Keeping the litter dry and under aerobic conditions <p>Optimising the discharge conditions of exhaust air from the poultry houses using a combination of BAT:-</p> <ul style="list-style-type: none"> • Maximised outlet heights – exhausting air above roof level, air exhaust through the ridge instead of through the walls • Increased vertical outlet ventilation velocity having been designed to be installed with uncapped outlet cones <p>Odour nuisance is expected at sensitive receptors within 400 metres. The combination of BAT [and other] techniques being used have also been identified in the OMP.</p>
BAT 14	<p><i>In order to reduce ammonia emissions to air from the storage of solid manure, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i></p>	<p>No used litter will be stored on-site</p>

BAT 15	<i>In order to prevent, or where that is not practicable, to reduce emissions to soil and water from the storage of solid manure, BAT is to use a combination of the techniques given[in the BAT conclusions document].</i>	No used litter will be stored on-site
BAT 16	<i>In order to reduce ammonia emissions to air from a slurry store, BAT is to use a combination of the techniques given [in the BAT conclusions document].</i>	N/a
BAT 17	<i>In order to reduce ammonia emissions to air from an earth- banked slurry store (lagoon), BAT is to use a combination of the techniques [in the BAT conclusions document].</i>	N/a
BAT 18	<i>In order to prevent emissions to soil and water from slurry collection, piping and from a store and/or an earth-banked storage (lagoon), BAT is to use a combination of the techniques given [in the BAT conclusions document].</i>	N/a
BAT 19	<i>If on farm processing of manure is used, in order to reduce emissions of nitrogen, phosphorous, odour and microbial pathogens to air and water and facilitate manure storage and/or land spreading, BAT is to process the manure by</i>	N/a

	<i>applying one or a combination of the techniques given [in the BAT conclusions document].</i>	
BAT 20	<i>In order to prevent or, where that is not practicable, to reduce emissions of nitrogen, phosphorous, odour and microbial pathogens to soil and water from land spreading BAT is to use all the techniques given [in the BAT conclusions document].</i>	<p>Measures are described in EPR 6.09 Sector Guidance Note; How to comply – Intensive Farming v2; 2010:-</p> <ul style="list-style-type: none"> • Used litter will not be spread on any land belonging to the operator. • Records will be kept of the quantities and the date of transfer, for example to a power station for recovery or third party for spreading on land and the names and addresses of the receiving farms. • The receiver of the manure and litter will confirm it is spread to land in accordance with the Code of Good Agricultural Practise or that the spreading will be in accordance with a manure management plan for the receiving land to reduce emissions of nitrogen, phosphorous and microbial pathogens to soil and water.
BAT 21	<i>In order to reduce ammonia emissions to air from slurry land spreading, BAT is to use a combination of the techniques given [in the BAT conclusions document].</i>	N/a
BAT 22	<i>In order to reduce ammonia emissions to air from manure land spreading, BAT is to incorporate the manure into the soil as soon as possible.</i>	<p>Measures are described in EPR 6.09 Sector Guidance Note; How to comply – Intensive Farming v2; 2010:-</p> <ul style="list-style-type: none"> • The receiver of the manure and litter will confirm it is spread to land in accordance with the Code of Good Agricultural Practise and will be incorporated into the soil as soon as possible to reduce ammonia emissions to the air.
BAT 23	<i>In order to reduce ammonia emissions from the whole production process for the rearing of pigs (including sows) or poultry, BAT is to estimate or calculate the reduction of ammonia emissions from the whole production process using the BAT implemented on the farm.</i>	Operator will comply with monitoring kgNH ₃ /animal place/year using emission factors in accordance with conditions in the permit so will meet this BAT conclusion in so far as they have reduced ammonia emissions compared to those, they would have produced had they not implemented BAT.

BAT 24	<i>BAT is to monitor the total nitrogen and total phosphorous excreted in manure using one or more of the following techniques [in the BAT conclusions document] with at least the frequency given [in the BAT conclusions document].</i>	Operator will be complying with monitoring in accordance with conditions in the permit so will meet this BAT conclusion for monitoring kg N and kg P ₂ O ₅ excreted/animal place/year by calculation by using a mass balance of nitrogen and phosphorous based on the feed intake, and animal performance or estimation by using manure analysis for total nitrogen and total phosphorous content.
BAT 25	<i>BAT is to monitor ammonia emissions to air using one of the following techniques with at least the frequency given [in the BAT conclusions document].</i>	Operator will be complying with monitoring in accordance with conditions in the permit so will meet this BAT conclusion for monitoring ammonia emissions using emission factors.
BAT 26	<i>BAT is to periodically monitor odour emissions to air.</i>	Odour nuisance is expected at sensitive receptors within 400 metres. The protocols for actions, monitoring and responding to odour nuisance have been established to comply with BAT 12 and the combination of BAT [and other] techniques will be used to comply with BAT 13 are identified in the OMP.
BAT 27	<i>BAT is to monitor dust emissions from each animal house using one of the following techniques with at least the frequency given [in the BAT conclusions document].</i>	In accordance with conditions in the Permit the operators will be monitoring dust using emission factors in an annual Pollution Inventory return.
BAT 28	<i>BAT is to monitor ammonia, dust and/or odour emissions from each animal house equipped with an air cleaning system by using all of the following techniques with at least the frequency given [in the BAT conclusions document].</i>	N/a Air cleaning equipment will not be used.
BAT 29	<i>BAT is to monitor the following process parameter at least once every year:-</i> <ul style="list-style-type: none"> • <i>Water consumption</i> • <i>Electric energy consumption</i> • <i>Fuel consumption</i> 	Checked the Operators will be keeping records for these parameters in their crop information records and waste records to comply with permit conditions on efficient use of energy, raw materials, and avoidance of waste.

	<ul style="list-style-type: none"> • Number of incoming and outgoing animals • Feed consumption • Manure generation. 	
BAT 30	<i>In order to reduce ammonia emissions to air from each pig house, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	N/a
BAT 31	<i>In order to reduce ammonia emissions to air from each house for laying hens, broiler breeders or pullets, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	N/a
BAT 32	<i>In order to reduce ammonia emissions to air from each house for broilers, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	<p>Checked Operators will be using one of the BAT techniques:-</p> <ul style="list-style-type: none"> • Forced ventilation and a non-leaking drinking system.
BAT 33	<i>In order to reduce ammonia emissions to air from each house for ducks, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	N/a
BAT 34	<i>In order to reduce ammonia emissions to air from each house for turkeys, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i>	N/a

B9 ENVIRONMENTAL IMPACT ASSESSMENT

1. Environmental Impact Assessments have been provided with a planning application for Lower Barn Poultry Unit submitted to Breckland Council in June 2020, the applicant is awaiting a decision.
2. A copy of the Ian Pick Associates Ltd; Environmental Statement; Erection of 4No. Poultry Buildings and Associated Infrastructure at Land South of the A1066, Diss Road, Garboldisham, IP22 2HW; June 2020, has been supplied with the application for a bespoke environmental permit.

B10.10a BASIC MEASURES FOR IMPROVING HOW ENERGY EFFICIENT THE ACTIVITIES ARE

1. Proposed energy usage at Lower Barn Poultry Unit:

Energy source	Use
Electricity	Lighting, ventilation system including extraction fans and gable end fans and computer systems, feed augers, winches, water pumps and pressure washers.
Liquid petroleum gas	Space heating in the poultry houses
Red diesel	Back-up generator

2. Heating

The correct environment for the birds will be maintained in the poultry houses using ventilation systems with high velocity extraction fans (with outlet vents greater than 5.5 metres high and fan efflux velocity greater than 7m/s) located along the roof ridge of the poultry houses.

Each house will be monitored by a computer system, which automatically controls and records the humidity and temperature.

Space heaters will be equally distributed through the housing to prevent cold spots and sensors triggering and activating the heaters unnecessarily.

Control sensors will be checked regularly and kept clean, so they are able to detect the temperature at stock level.

Ventilation rates will be computer controlled to minimise, as far as the indoor requirements allow heat losses from the houses.

Extraction fans will be fitted with back draft shutters to reduce heat loss.

The poultry houses will be maintained in good condition, cracks and open seams will be repaired.

The houses will be fully insulated with a U-value of approximately 0.4 W/m²/°C to reduce condensation and heat loss.

The houses will be constructed with a continuous damp-proof membrane installed under all the concrete floors preventing moisture being drawn up from the ground to ensure the litter is dry and friable and reduce the need to heat the houses to keep the litter dry.

The concrete flooring will be maintained, and cracks will be repaired.

Nipple drinking systems will reduce water spillages.

3. Electricity

The ventilation extraction fans in the poultry houses have been selected so that they are the appropriate power and sizes for the houses.

The computer control systems will control the ventilation for maximum efficiency i.e. one fan operating at full capacity rather than two operating at half their capacity.

The fans are low energy per m³ of air.

The fans will be regularly maintained and cleared of debris.

Low energy light bulbs will be used in the control/vestibule areas, the office, and stores.

Fluorescent lights will be used in the poultry houses.

We will operate a variable lighting period during the crop cycle.

4. Fuel Oil

The back-up generator will be regularly maintained by professional contractors in accordance with the manufacturer's instructions to ensure it operates efficiently.

There is no incinerator.

5. A breakdown of delivered and primary energy consumption will be recorded and provided to the Environment Agency annually in the following format:

Energy source Delivered MWh	Energy consumption Primary MWh	% of total
Electricity		
Liquid petroleum gas		
Diesel		
Other (Operators to specify)		
Exported energy	MWh	Source
	N/a	N/a

B10.10b HOW WE AVOID PRODUCING WASTE IN LINE WITH COUNCIL DIRECTIVE 2008/98/EC ON WASTE

1. Waste solid litter, dirty water, and packaging waste, etc generated by the activities will be treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive. Waste will be segregated and securely stored for export off-site for recycling, recovery by land treatment to confer agricultural or ecological benefit or used as fuel.
2. Carcasses of dead chickens will be treated in accordance with EU 142/2011 Commission Regulation implementing Regulation 1069/2009 of The European Parliament and of the Council laying down health rules as regards animal by-products 'The EU Implementing Regulation. Animal by-products will be segregated from waste and securely stored for export off-site by an approved transporter under the National Fallen Stock Scheme.

Gooderham Farms Limited

Chestnut Tree Farm Kenninghall Norwich Norfolk NR16 2DS

Telephone: 01953 681475 Fax: 01953 681135

9th September 2020

Dear Sirs

EPR/EP3204SE Lower Barn Poultry Unit, Thetford Road, Garboldisham, Diss, Norfolk, IP22 2SP

Gooderham Farms Limited (Company number 03369501) have authorised Mr Karl Collett of Green Inc Solutions Limited (Company number 07143864) to assist the business with preparing an application for a bespoke installation permit for rearing poultry intensively in 4No. poultry houses and associated infrastructure at Lower Barn. Mr Karl Collett is authorised to complete the declaration in form EPF on behalf of Gooderham Farms Limited.

Yours faithfully



George Gooderham
Director

Environment Agency Permitting and Support Centre
Environment Permitting Team
Quadrant 2,
99 Parkway Avenue
Parkway Business Park
Sheffield S9 4WF

APPENDIX 1.4 DETAILS OF DIRECTORS

Christine Gooderham
George Edward Burwood Gooderham
James Robert Burwood Gooderham
Pamela Mary Gooderham
Robert James Burwood Gooderham