Application Bespoke Summary, Technical Standards & Controls for EPR/LP3229LL, Woodend Poultry Farm, Woodend, Ledbury, HR8 2RS

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Contents

5 Supporting information

Non-technical summary of application

1. Woodend Poultry Farm is located approx. 0.69 km southwest of the centre of the village of Ashperton in Herefordshire. The Installation is centred on National Grid Reference SO 63754 41291 with four poultry houses with a total capacity for 180,000 broiler chickens.

2. Refurbished interiors of all the houses for rearing broiler chickens from turkeys without material changes to construction or size. Comply with SGN EPR 6.09 and Best Available Techniques (BAT) Conclusions Document - fan ventilation, fully littered floors, and non-leaking drinkers. Constructed with concrete floors poured over a continuous damp proof membrane, fully insulated walls and roofs to reduce heat loss and condensation.

3. Forced ventilation via extraction fans evenly distributed along both sides of the houses draw in fresh airstream through an open ridge inlet. Exhaust air directed downwards on to grass and gravel areas to avoid dust deposition on the concrete apron. Heat houses with package, direct, LPG-fired heaters to keep chicks warm. Ventilation is computer controlled and will remove moisture under all weather and seasonal conditions. Regularly adjusted to match age, weight, and health requirements of chickens, and minimise ammonia, odour, and dust. Diesel-fired back-up emergency generator to guarantee sufficient air renewal for chicken welfare in case of a grid electricity outage.

4. Separate surface and dirty water drainage to prevent pollution in any watercourse, underlying geology, or groundwater. Uncontaminated roof-water conveyed via gutters and down-pipes into solid underground pipes, sealed against pollutants entering into the system, and released into an offsite ditch, a tributary of the River Frome. Clean surface water runoff the kerbed concrete apron falls into a catch-pit and conveyed via an isolation/diverter valve and solid underground pipe into the ditch. Dirty water runoff during destocking, litter removal and washing out is diverted into a below ground dirty water storage tank. Door gullies outside houses convey dirty water from washing out via solid underground pipes into below ground dirty water tanks. Dirty water exported offsite for spreading on land by a registered carrier.

5. Start of every batch and prior to chicks arriving new litter material evenly spread over entire floor area. Use proprietary blend of dust extracted chopped straw/wood shavings or chopped straw to provide absorbent bedding. Litter will be kept loose and friable and quality inspected to ensure it does not become excessively wet or dry to minimise ammonia, odour and dust. Nipple drinking system with cups provide chickens drinking water without spillages and keep litter dry.

6. Chickens reared in batches, all-in-all-out for biosecurity. Arrive as day-old chicks from a hatchery for rearing to around 31 days of age then start destocking - a quarter will be removed from each house ‘thinned’ for slaughter. Remainder reared to around 38 days of age then destocked for slaughter. Normally 10 days for washing-out and empty in between batches so approx. 7.6 batches per annum.

7. Feed broiler chickens ad-lib with a minimum of three pelleted compound diets appropriate to nutritional requirements at each stage of growth. A lower percentage crude protein and phosphorous in each diet by supplementing with synthetic essential amino acids, inorganic phosphates, and authorised additives to minimise nitrogen and phosphorous excretion. Store feedstuffs in fully enclosed package silos and feed delivery equipment to minimise waste, dust, and odour, located in between houses to protect them from collision damage.

8. Chicken mortalities removed from houses daily and recorded. Carcasses stored in secure, covered containers to minimise odour and flies and frequently removed offsite by an approved transporter under National Fallen Stock Scheme.

9. Used litter removed immediately after houses destocked and empty. Exported offsite in covered trailers to minimise dust and odour for spreading on land to confer agricultural benefit or supplied as fuel to a local power station.

10. Designated nature conservation sites within 5km – Mains Wood Site of Special Scientific Interest (SSSI) and Birchend SSSI. Little Hill SSSI and Perton Roadside Section and Quarry SSSI have geological features. Ancient Woodlands (AW) and Local Wildlife Sites within 2km - Ashperton Park AW/LWS, Eastwood AW, Garbrook AW, Hasnett Wood Broomy Lakes AW/LWS, Cooks Wood LWS, Lynewood LWS and LWS at the River Frome to the northwest and the canal (disused) to the northeast of the farm. Residential dwelling houses, agricultural premises, and public rights of way (footpaths) are sensitive receptors within 400m for dust, noise and odour.

3 Management systems

Table 1: Summary of environment management system for Woodend Poultry Farm

Technical guidance	An environment management system will be in place in accordance with Environment Agency (2010) SGN EPR 6.09 V2.

Normal operations	• Daily records will be kept on all aspects of the farm's operation including:
	  o Water consumption
	  o Feed consumption and deliveries
	  o Bird mortalities
	  o Poultry house temperature and humidity
	  o Waste collections.
	• Daily inspection by staff around the site to ensure equipment is operating correctly.

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. • Emergency backup diesel-fired 120 KVA generator (thermal input 0.103 MW) at Woodend Poultry Farm to guarantee sufficient air renewal for chicken welfare so is not a specified generator under the Environmental Permitting Regulations. Thermal input is less than 1MW so not in scope of the Medium Combustion Plant Directive. Operated for the purpose of testing for not more than 50 hours per year or operated for not more than 500 hours per year averaged over three years, including testing. • 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, maintenance work and inspections will be kept in the site office.
Incidents and abnormal operations	• Measures will be in place to identify incidents and abnormal operations. Workers 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.
Complaint 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.
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.
Training and qualifications	• Staff will be employees under a contract of service either result of transferring the contracts of existing staff on the farm to the new employer or recruiting new employees. • All staff will be suitably qualified to work at the installation. Qualified with NVQ level 2, and managers and area managers with NVQ level 3, and all members of the Poultry Passport scheme. • 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, preventing pollution using the accident management plan and how to comply with conditions in the environmental permit, and EPR regulations. • 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.
Site security	• Site will have a secure perimeter fence. • Poultry houses are securely locked at night. • Site gates locked at night to prevent pedestrian and vehicle access out of hours. • The fuel oil and LPG tanks will be secure and locked. • No public footpath through any part of the site.
Site closure plan	• A site closure plan will be created and reviewed in pursuance of any conditions in the Permit or inspection scheme. Such a plan will include removal of all potentially polluting substances and decommissioning and removing equipment, plant, buildings, hard standing and underground structures.
Certification	• Installation will be operated in accordance with a poultry assurance certification scheme including the EMS.

Table 2: Summary of climate change adaptation for Woodend Poultry Farm

Climate change adaption	a) Summer daily maximum temperature This may be around 7°C higher compared to average summer temperatures now, with the potential to reach extreme temperatures as high as over 40°C with increasing frequency based on today values. Impact 1 - The ventilation system may not be able to maintain temperatures within poultry houses. Mitigation for this will include: • a regular review to make sure ventilation is optimally maintained along with other measures such as: • installing additional cooling, such as a misting system, • installing gable end fans. Impact 2 – There could be a risk of wildfires in adjoining woodland at Woodend Poultry Farm. These could spread into the site and damage buildings, risking staff safety and livestock. Mitigation can include seeking professional advice to help identify risk areas and fire safety precautions. b) Winter daily temperatures This could be 4°C more than the current average with the potential for more extreme temperatures, both warmer and colder than present. Impact 1 - There will be potential benefits such as: • Less energy used to heat animal housing • Less risk of water freezing and damaging pipes. Impact 2 - Increased risk of snow and ice. This could cause travel disruption with delays to deliveries, site access difficulties for staff and heavy snow damaging structures. The mitigation for this will be to: • Have adequate feed storage capacity and stocks onsite in winter to mitigate delays in feed deliveries • Make sure roofs and structures are well maintained to withstand heavy snow • Have equipment and materials available to clear snow and ice form the access to the site for delivery and staff vehicles. c) Daily extreme rainfall

	Daily rainfall intensity could increase by up to 20% on today's values. Impact 1 - Gutters may not be able to cope or could overflow. The mitigation for this will include: • Clearing gutters of debris • Clearing roofs of moss • Changing guttering for larger gutters. Impact 2 – Surface water drainage systems may not be able to cope with increased flows. The mitigation for this could include: • Installing water storage or rainwater harvesting systems to off-set drier summers • Treating stored water to sufficient quality to use for chickens • Installing additional surface water drainage. d) Storms Storms could see a change in frequency and intensity. The unique combination of increased windspeeds, increased rainfall, and lightning during these events provides the potential for more extreme storm impacts. Storms and high winds could damage building structures with increased potential for odour and dust emissions and loss of power. The mitigation for this will include: • Reviewing the design of vulnerable structures and buildings • Reviewing wind loading calculations, providing reinforcement if necessary • Maintaining building integrity • Having well maintained emergency back-up power • Keeping the site tidy and secure any equipment or objects that could blow around. Possible impacts and mitigation measures considered are in accordance with the government website at https://www.gov.uk/government/publications/adapting-to-climate-change-industry-sector-examples-for-your-risk-assessment/intensive-farming-examples-for-your-adapting-to-climate-change-risk-assessment

7 Emissions to air, water, and land

Table 3 Emissions (releases) at Wood End Poultry Farm

Emission point description and location	Source
Point source emissions to air	
Side fan outlets as shown on the Cranberry Foods, Site Survey; Drawing No. ASH-001; Date 26/06/2013; created at the 1:1250 scale included with the bespoke application for EPR/LP3229LL	Poultry houses 1-4
Vent outlets from liquefied petroleum gas (LPG) storage tanks as shown on the Cranberry Foods, Site Survey; Drawing No. ASH-001; Date 26/06/2013; created at the 1:1250 scale included with the bespoke application for EPR/LP3229LL	LPG storage tanks
Exhaust outlet from emergency backup diesel-fired generator as shown on the Cranberry Foods, Site Survey; Drawing No. ASH-001; Date 26/06/2013; created at the 1:1250 scale included with the bespoke application for EPR/LP3229LL	Emergency backup diesel-fired generator
Vent from stand-alone diesel tank as shown on the Cranberry Foods, Site Survey; Drawing No. ASH-001; Date 26/06/2013; created at the 1:1250 scale included with the bespoke application for EPR/LP3229LL	Diesel tank for backup generator
Point source emissions to water	
Stormwater to offsite ditch tributary of the River Frome as shown on the Cranberry Foods, Site Survey; Drawing No. ASH-001; Date 26/06/2013; created at the 1:1250 scale included with the bespoke application for EPR/LP3229LL	Uncontaminated roof water from poultry houses 1-4 and uncontaminated surface water from the concrete apron (excluding all times the apron is contaminated e.g., during destocking, litter removal and washing out)
Point source emissions to land	
None	
Point source emissions to sewer, effluent treatment plants or other transfers offsite	
None	

8 Operating techniques

Table 4 Technical Standards for Woodend Poultry Farm

Schedule 1 activity	Section 6.9; Part A(1)(a)(i) Rearing poultry intensively at installation with more than 40,000 places for poultry
Technical guidance	• Environment Agency (2010) EPR 6.09 Sector Guidance Note: How to comply – Intensive Farming Version 2. • Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs 2017.

Table 4 Measures to control emissions at Woodend Poultry Farm

Selection & use of feed. Technical standard: you must take appropriate measures to provide a diet which minimises the excretion of nitrogen and phosphorous.	• Operator will use a nutritional strategy to reduce levels of nitrogen excreted and consequently ammonia, and phosphorous excretion while meeting the nutritional needs of the chickens. • Package feed delivery equipment - storage silos, augers, pipes, and feeders, etc will be designed to accommodate the required feeding regime for rearing broiler chickens.
Housing design & management. Technical standard: you must take appropriate measures in the design and management of housing to minimize the emissions from those systems	<u>Housing</u> Poultry houses designed and constructed on concrete floors poured over a continuous damp proof membrane. Insulated walls with fibre cement panels inside and wood cladding on outside. Insulated roofs with fibre cement panels inside and corrugated fibre cement sheet on outside. Walls and roofs fully insulated with a U-Value of approximately 0.4 $W/m^2/^oC$ to reduce heat loss and condensation. <u>Litter</u> 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. <u>Temperature</u> Temperature in the houses will meet the health and welfare needs for the age and number of chickens. Use LPG-direct fired space heaters and 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. <u>Ventilation</u> Package computer-controlled ventilation system 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 minimum ventilation rates planned to avoid build-up of moisture. • Houses managed to maintain litter as dry and friable as possible. • Dust controlled through the management of litter and air quality. • Forced ventilation via extraction fans evenly distributed along both sides of the houses and draw in fresh airstream through an open ridge inlet. • Uncontaminated runoff water from roofs and open concrete apron (excluding during periods of depopulating & washing out) conveyed via solid underground pipes into an offsite watercourse at Woodend Poultry Farm. <u>General management</u> 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.
Livestock numbers and movements	• A system will be in place to record the number of bird places and bird movements on and offsite. These records will be available for inspection.
Slurry spreading and manure management planning – offsite activity	• Records will be kept of the quantities and date of transfers for example to power station or biogas plant for recovery or to a third party for spreading to land for benefit to agriculture or ecological improvement. • The names and addresses and land hectares available where manure is exported for spreading to land.
Slurry spreading and manure management planning – onsite activity	• Litter and dirty water will not be spread onsite.
Spreading of manure and slurry to minimise emissions to air Technical standard: you must take appropriate measures when spreading manure or slurry to land to prevent , or where this is not possible to minimise the emissions to air in implementing your manure management plan	• Where a ‘manure agent’ or other third party accepts liability for removing manure will provide acceptable confirmation that: as a minimum, the third party will ensure that the manure is spread to land in accordance with the Code of Good Agricultural Practice, or that the spreading will be in accordance with a manure management plan for the receiving land.

Waste sent off-site	Waste will be removed offsite by a registered carrier with a transfer document for non-hazardous waste - mostly packaging waste, etc., or a consignment note for any hazardous waste in accordance with legal requirements.
Fugitive emissions	Appropriate measures for preventing and minimising fugitive emissions will be in place with provisions for: • Buildings & equipment will be well maintained & kept in good repair. • Areas around buildings kept free from build-up of litter & spilt feed. • Drainage from poultry houses and water from washout will be collected in package underground storage tanks shown on the drainage plan. • Diverter valves shown on the drainage plan will be used during wash down periods to prevent contamination of surface water systems and to divert dirty water into the dirty water tank. Clean drainage systems will not be contaminated. • Drainage from yard contaminated by litter or wash water will be collected in below ground dirty water tanks. • The dirty water collection systems and below ground 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 tanks.
Dust	The Environmental Risk Assessment submitted with application for permit shows dust has been identified as having potentially moderate significance: • Sensitive receptors for dust within 100m of installation boundary. • Poultry feed will be stored in package feed silos, protected from vehicle collision damage by careful siting relative to traffic flows in between the houses, and with kerbs or barriers as required. • Feed will be delivered direct 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 onsite. • Routine and contingency actions to minimise dust and bio-aerosol risks will be in accordance with EPR6.09 and the BREF. • Submitted a dust & bio-aerosol management plan with the application.
Carcase management	Appropriate measures to prevent/ minimise fugitive emissions will be in place: • Rent containers, frequent collections planned by an approved transporter, under National Fallen Stock Scheme.
Flies	Appropriate actions will be implemented to prevent, and control flies should problems occur.
Measures for bunding and containment	(a) <u>Agricultural fuel oil and other chemical storage</u>: • Package, emergency back-up diesel-fired generator with separate bunded fuel tank will meet requirements under 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. (b) Feedstuffs • Poultry feed will be stored in package feed silos. • Protected from vehicle collision damage by careful siting relative to traffic flows in between houses, and with kerbs or barriers as required.
Odour	The Environmental Risk Assessment submitted with application for permit shows odour has been identified as having potentially moderate significance: • Sensitive receptors for odour within 400m of installation boundary. • Routine and contingency actions to minimise odour risks will be in accordance with EPR6.09 and BREF. • Submitted an odour management plan with the application.
Noise & vibrations	The Environmental Risk Assessment submitted with application for permit shows noise has been identified as having potentially moderate significance: • Sensitive receptors for noise within 400m of installation boundary. • Routine and contingency actions to minimise noise risks will be in accordance with EPR6.09 and BREF. • Submitted a noise management plan with the application.
Emergency backup generator	• Emergency backup diesel-fired 120 KVA generator (thermal input 0.103 MW) at Woodend Poultry Farm to guarantee sufficient air renewal for chicken welfare so is not a specified generator under the Environmental Permitting Regulations. Thermal input is less than 1MW so not in scope of the Medium Combustion Plant Directive. Operated for the purpose of testing for not more than 50 hours per year or operated for not more than 500 hours per year averaged over three years, including testing. • Grid outages rarely happen.

Q8a Technical standards contd. EC (2017) Best Available techniques (BAT) Reference Document for the Intensive Rearing of Poultry or pigs at Woodend Poultry Farm

Table 5 Measures in accordance with EC (2017) Best Available techniques (BAT) Reference Document

BAT	Description	How is the site demonstrating compliance
BAT 1	**EMS** *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].*	Operator will use all of the features given in BAT2:- An Environmental Policy will be in place. Operator will adhere to a written management system comprising a suite of documents to help identify and minimise the risk of pollution. These include an accident management plan, maintenance plan, staff training and dust, noise and odour management plans.
BAT 2	**Good housekeeping** *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].*	Operator will use all of the techniques given in BAT2:- • Proper location of the plant/farm and spatial arrangements of the activities in order to: o Take into account prevailing climatic conditions (e.g. wind and precipitation) o prevent the contamination of water. • Educate and train staff, in particular for: o relevant regulations, livestock farming, animal health and welfare, manure management, worker safety o manure transport and land-spreading o planning of activities o emergency planning and management o repair and maintenance of equipment. • Prepare an emergency plan for dealing with unexpected emissions & incidents such as pollution of water bodies including: o a plan of the farm showing the drainage systems and water and effluent sources. o plans of action for responding to certain potential events for example fire, oil spillages. o available equipment for dealing with a pollution incident for example spill kit for oil spillages. • Regularly check, repair, & maintain structures & equipment such as: o water and feed supply systems o ventilation systems and temperature sensors, o silos, and transport equipment, o cleanliness of the farm, and pest management.

		• Storie dead animals in such a way as to prevent or reduce emissions.
Nutritional management		
BAT 3	*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 techniques given [in the BAT conclusions document].*	Operator will use a combination of the techniques given in BAT3:- • Reduce the crude protein content using a N-balanced diet based on the energy needs and digestible amino acids. Flaked soya bean will be added into the feedstuffs during milling to increase crude protein and supplement otherwise low natural levels in wheat grains, especially in first diets. Percentage of flaked soya will be reduced as chickens grow. • Multiphase feeding with a diet formulation adapted to the specific requirements of the production period. Provide chickens a minimum of three separate diets which contain increasingly lower percentage crude protein. • Addition of controlled amounts of essential amino acids. Highly digestible amino acid analogues lysine, methionine, threonine, and valine are added to all the feeds during milling to supplement otherwise low naturally occurring levels in the wheat grains.
BAT 4	*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].*	Operator will use a combination of the techniques given in BAT4:- • Multiphase feeding with a diet formulation adapted to the specific requirements of the production period. Provide chickens a minimum of three separate diets which contain increasingly lower percentage of phosphorous. • Use of authorised feed additives which reduce the total phosphorous excreted. Specifically, 6-phytase enzyme will be added to all the feeds during milling. Degrades the phytate phosphorous in grain during digestion, making more naturally occurring phosphorous and other nutrients available to chickens. • Use of highly digestible inorganic phosphates for the partial replacement of conventional sources of phosphorous in the feed. Specifically, calcium hydrogen orthophosphate/ calcium phosphate will be added to all the feeds during milling.
BAT 5	**Efficient use of water** *In order to use water efficiently, BAT is to use a combination of the techniques given [in the BAT conclusions document].*	Operator will use a combination of techniques given in BAT5:- • Keeping a record of water use • Detect and repair water leakages • Use high pressure cleaners for cleaning animal housing and equipment • Select and use suitable equipment e.g. nipple drinkers with drip cups for chickens while ensuring water availability (ad-libitum).

Emissions from waste water		
BAT 6	*In order to reduce the generation of waste water, BAT is using a combination of the techniques given [in the BAT conclusions document].*	Operator will use all of the techniques given in BAT6:- • 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	*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].*	Operator will use a combination of the techniques given in BAT7:- • Drain waste water to dedicated containers • Land spreading of waste water.
BAT 8	**Efficient use of energy** *In order to use energy efficiently in a farm. BAT is to use a combination of the techniques given [in the BAT conclusions document].*	Operator will use a combination of techniques given in BAT8:- • High efficiency heating/cooling and ventilation system • Insulation of the walls and ceilings of animal housing • Use of energy efficient lighting.
Noise emissions		
BAT 9	*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).* *BAT 9 is only applicable to cases where a noise nuisance at sensitive receptors is expected and/or has been substantiated.*	Operator will use a combination of techniques given in BAT9:- • Submitted a noise management plan (NMP) with the application owing to sensitive receptors within 400m of the boundary and includes the following elements: • A protocol containing appropriate actions and timelines • A protocol for conducting noise monitoring • A protocol for response to identified noise events. Operator has no records or recollections of having substantiated any noise concerns or complaints, so a noise reduction programme to implement elimination and/or reduction measures is not considered necessary.

BAT 10	*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].*	Operator will use a combination of techniques given in BAT10:- • Equipment location • Operational measures • Low noise equipment. The techniques are described in the NMP.
BAT 11	**Dust emissions** *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].*	Operator will use a combination of the techniques given in BAT11:- • Reduce dust generation inside livestock buildings. For this purpose, a combination of the following techniques will be used:- • Use coarser litter material. Will use proprietary mixture of coarser wood shavings and chopped straw • Apply fresh litter using a low-dust littering technique. Litter will be supplied in plastic wrapped bales and applied by hand • Ad-libitum feeding • Use pelleted feed in dry feed system.
Odour emissions		
BAT 12	*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].*	Operator will use a combination of techniques given in BAT12:- • Submitted an odour management plan (OMP) with the application owing to sensitive receptors within 400m of the boundary that includes the following elements: • A protocol containing appropriate actions and timelines • A protocol for conducting odour monitoring • A protocol for response to identified odour nuisance. Operator has no records or recollections of having substantiated any odour concerns or complaints, so an odour reduction programme to implement elimination and/or reduction measures is not considered necessary.
BAT 13	*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].*	Operator will be using a combination of the techniques given in BAT13:- • Use a housing system which implements a combination of the principles: • Keeping the chickens and the surfaces dry and clean, and • keeping the litter dry and under aerobic conditions The techniques have been described in the OMP.

Emissions from solid manure storage		
BAT 14	*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].*	Not applicable, no used poultry litter will be stored onsite.
BAT 15	*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].*	Not applicable, no used poultry litter will be stored onsite. .
Emissions from slurry storage		
BAT 16	*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].*	Not applicable, store dirty water in a package, below ground tanks.
BAT 17	*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].*	Not applicable, no earth-banked slurry store onsite.
BAT 18	*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].*	Not applicable, no earth-banked slurry store onsite.

BAT 19	**On farm processing of manure** *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 applying one or a combination of the techniques given [in the BAT conclusions document].*	Not applicable, no manure processing onsite.
Manure land spreading		
BAT 20	*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].*	*Spreading of manure and slurry on land outside of the installation boundary is not considered to part of the permitted installation. In the rare circumstances where spreading occurs within the installation boundary the requirements are covered by the existing operating techniques permit condition.* Not applicable, no used poultry litter will be spread onsite.
BAT 21	*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].*	*Spreading of manure and slurry on land outside of the installation boundary is not considered to part of the permitted installation. In the rare circumstances where spreading occurs within the installation boundary the requirements are covered by the existing operating techniques permit condition.* Not applicable, no used poultry litter will be spread onsite.
BAT 22	*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.*	*Spreading of manure and slurry on land outside of the installation boundary is not considered to part of the permitted installation. In the rare circumstances where spreading occurs within the installation boundary the requirements are covered by the existing operating techniques permit condition. The time delay between land spreading and incorporation into the soil is now a maximum of 12 hours.* Not applicable, no used poultry litter will be spread onsite.

BAT 23	*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.*	*An operator complying with the relevant existing conditions in the permit will meet this BAT conclusion in so far as they will have reduced ammonia emissions compared to those they would have produced had they not implemented BAT. The operator is not required to report they are meeting the BAT-AELs annually.*
Monitoring of emissions and process parameters		
BAT 24	*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].*	Operator will be using one of the techniques given in BAT24:- • Calculation by using a mass balance of nitrogen and phosphorous based on the feed intake, crude protein content of the diet, total phosphorous and animal performance.
BAT 25	*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].*	Operator will be using one of the techniques given in BAT25:- • Estimation by using emission factors.
BAT 26	*BAT is to periodically monitor odour emissions to air.*	*Routine monitoring (e.g., subjective 'sniff testing') is not expected in most cases, as we would expect the odour management plan to minimise and prevent any odour pollution. It will only be expected as part of ongoing odour management at sites where there have been substantiated odour complaints.* Operator submitted an OMP with the application owing to sensitive receptors within 400m of the boundary that includes 'sniff-testing'.
BAT 27	*BAT is to monitor dust emissions from each animal house using one of the following techniques with at least*	Operator will be using one of the techniques given in BAT27:- • Estimation by using emission factors.

	the frequency given [in the BAT conclusions document].	
BAT 28	*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].*	*If an air scrubber or cleaning system is in place, the operator will be required to comply with this BAT conclusion. Air abatement systems are not common as they are costly and only work with closed housing systems so are not appropriate for a retrofit to older housing. Where such abatement is in place (for ammonia or odour abatement) the criteria has been met via process monitoring.* Not applicable, not proposing any air cleaning systems.
BAT 29	*BAT is to monitor the following process parameter at least once every year:-* • *Water consumption* • *Electric energy consumption* • *Fuel consumption* • *Number of incoming and outgoing animals* • *Feed consumption* • *Manure generation.*	*The operator is already required to keep records for these parameters in their current permit through existing permit conditions on energy efficiency, efficient use of raw materials and operating techniques. These will be checked during routine compliance inspections.* Operator will monitor all the process parameters at least once per year: • Water consumption • Electric energy consumption • Fuel consumption • Number of incoming and outgoing animals, including deaths • Feed consumption • Manure generation.
BAT 30	**Ammonia emissions from pig houses** *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].*	Not applicable to rearing broiler chickens.
BAT 31	**Ammonia emissions from houses for laying hens, broiler breeders or pullets**	Not applicable to rearing broiler chickens.

	*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].*	
BAT 32	**Ammonia emissions from houses for broilers** *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].*	Operator will be using one of the techniques given in BAT32: • Forced ventilation and a non-leaking drinking system (in case of solid floor with deep litter).
BAT 33	**Ammonia emissions from houses for ducks** *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].*	Not applicable to rearing broiler chickens.
BAT 34	**Ammonia emissions from houses for turkeys** *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*	Not applicable to rearing broiler chickens.

	the BAT conclusions document].	

Table 6 Raw materials inventory for Woodend Poultry Farm

Raw materials inventory	Justification for use of this material	Quantity stored onsite (litres/kg)	Quantity used per year (litres/kg)
Biocides (includes disinfectants, wood preservatives, slimicides)			
Disinfectants brought onsite by contractors to washout and disinfect houses & equipment	Defra Disinfectants Approved for use in England, Scotland, and Wales.	tbc	tbc
Pesticides (including herbicides, vertebrate control products, biological pesticides)			
Rodenticide baits, often in proprietary bait boxes	HSE UK List of Authorised Biocidal Products	tbc	tbc
Veterinary medicines (excluding dietary additives)			
Provided only in accordance with a veterinary prescription as required	Chicken welfare/disease/pest control	tbc	tbc
Bedding types			
Litter bales (proprietary mix of wood shavings/ chopped straw), delivered in time for setting up & small quantity stored onsite for topping up as required	UK industry standard, readily available, efficacy & cost	tbc	tbc
Fuels and oils			
Liquid petroleum gas for heating poultry houses	UK industry standard, efficacy & cost	tbc	tbc
Gasoline (red diesel) for emergency back-up generator	UK industry standard, efficacy & cost	tbc	tbc

Inventory will be reviewed every 4 years and updated if alternative products are available.

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Table 7 Energy usage at Woodend Poultry Farm

Energy source	Use
Grid electricity	Ventilation system including extraction fans, computers, feed delivery equipment including augers to deliver feed into houses and inside into feeding pans, lighting, winches, water pumps, and pressure washers, etc.
Liquid petroleum gas	Direct space heating in all the poultry houses
Gasoline (red diesel)	Emergency backup diesel-fired generator

Table 8 Basic energy efficiency measures in poultry houses at Woodend Poultry Farm

Activity	Basic energy efficiency measures
Heating	• Houses fully insulated with a U-value of approximately 0.4 $W/m^2/^oC$ to reduce condensation and heat loss. • Houses constructed with a continuous damp-proof membrane installed under the concrete floor preventing moisture being drawn up from the ground and ensure the litter is dry and friable and reduce the need to heat houses to keep litter dry. • Package, direct LPG-fired heaters, equally distributed to prevent cold spots or sensors triggering and activating heaters unnecessarily. • Houses monitored by a computer system, which automatically controls and records humidity and temperature. • Temperature control sensors checked regularly and kept clean, so they are able to detect the temperature at stock level. • Pre-warm houses at start of rearing cycle to keep chicks at correct temperature. • Keep fabric of houses in good condition, cracks and open seams will be repaired, including in the concrete floor. • Planned preventive maintenance for buildings and equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.
Ventilation system	• Package ventilation system designed and installed by a professional contractor. • Forced ventilation via extraction fans evenly distributed along both sides of the houses and draw in fresh airstream through an open ridge inlet. • Appropriate size and power fans to minimise energy consumption, the fans are low energy per m^3 of air. • Automatic, computer control system will control the ventilation for maximum efficiency. • Use small number of fans running continually at high-speed rather than more fans switching on and off. One fan operating at full capacity rather than two operating at half their capacity.

	• More extraction fans turned on as more fresh air is required to match age, weight and health and welfare requirements of chickens and provide adequate ventilation under all weather and seasonal conditions. Minimise, as far as the indoor requirements allow, heat losses from the houses. • Extraction fans fitted with back draft shutters to reduce heat loss. • Ventilation system switched off in empty houses, and after a drying period following washing and disinfecting. • Automated or mechanical equipment essential for the health and well-being of the chickens must be inspected at least once a day to check there is not defect in it, defects must be rectified by farmworkers, company engineers or professional contactors. • Planned preventive maintenance for buildings and equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.
Lighting	• Use a combination of natural and artificial lighting. • Use windows in sides of houses and energy efficient LED lighting. • Lighting follows a 24-hour rhythm allowing enough light for normal behaviours, inspections, and dark periods for rest.
Gasoline (red diesel)	• Package, emergency back-up diesel-fired generator to provide electricity in event of grid outage. • Fuel level will be checked for use or signs of leakage. • Planned preventive maintenance for buildings and equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.
Monitoring	• Read electricity meters every day and recording kWh used. • Recording litres of LPG and diesel delivered to site.

Q10c How we avoid producing waste in line with Council Directive 2008/98/EC on waste

Table 9 – Treating waste in accordance with the waste hierarchy at Woodend Poultry Farm

Used poultry litter	Export offsite for recovery by land spreading to confer agricultural or ecological benefit or used as fuel for biogas or fuel in a power station.
Municipal waste (Household waste and similar commercial, industrial and institutional waste). Mostly packaging waste – board and plastic, and metal, plastic and wood from maintenance activities.	Export offsite for sorting for recycling and residual waste for energy recovery or disposal.