

**Application Variation V004 Summary of changes, technical standards & control measures for EPR/TP3837MY/V004, Great Westwick Farm Poultry Unit, Marsh Road, Burnham-on-Crouch, Essex, CM0 8NE**

**September April 2025**

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## 2 About your proposed change

### **Q2b Summary of proposed change**

#### **Summary of changes proposed and key technical standards and control measures**

1. Apply to transfer permit to Crown Chicken Ltd from Faccenda Foods Ltd, same time.
2. Apply for change of use to rearing ~~179,166~~ 176,470 broiler chickens from 100,000 pullets in all five houses and include a mobile macerator as a new directly associated activity. Birds will arrive as incubated eggs for hatching in houses where they will be reared or day-old chicks.
3. Applying for an administrative change to reduce the installation boundary to exclude the dwelling house for a farm worker, associated buildings and garden, etc enclosed in error.
4. Refurbished interiors of all the houses for rearing broiler chickens, not made any changes to the construction or the size of any houses. All the refurbishment designed to be operated in accordance with SGN EPR 6.09 and Best Available Techniques (BAT) Conclusions Document. All the development will be contained within the existing installation boundary.
5. Installed new package LPG-fired heaters, heat exchangers and **medium velocity roof fan outlets (vents greater than 3.5m high and fan efflux velocity greater than 2m/s)** with uncapped outlets. Installed package water fogging system to cool temperature inside houses in warm weather. Replaced old for new feed silos, feeding and drinking systems and water storage tanks. Installed new back-up generator and diesel tank and removed two smaller generators and tanks. Erected new welfare facilities for farm workers, **a water and chemicals storage room and a chiller room for storing carcasses.**
6. **There are existing separate surface and dirty water drainage systems in place to prevent pollution in any watercourse, underlying geology, or groundwater. Ventilation will be provided by uncapped, extraction fan outlets on the ridges of all the houses so roof-water will not be contaminated. Uncontaminated roof-water off houses 1-3 is conveyed via gutters and down-pipes into solid underground pipes, sealed against pollutants entering into the system, and uncontaminated roof-water off houses 4&5 into French drains filled with stones acting as soakaways under the eaves. Roof-water from all the houses is released via thirteen separate outlets into an offsite un-named watercourse (drain) a tributary of the River Crouch. Not proposing any changes to surface water drainage.**
7. **Clean surface water runoff the kerbed concrete apron is conveyed overland into catch-pits and via isolation/diverter valves into the offsite drain/watercourse via two separate outlets into the offsite watercourse (drain). Dirty water runoff during destocking, litter removal and washing out is diverted into below ground dirty water storage tanks. Door gullies outside houses convey dirty water from washing out via solid underground pipes into the below ground dirty water tanks. Contaminated condensate inside the heat exchangers and dirty water during washout will be conveyed through solid underground pipes directly into the dirty water tanks. Dirty water will continue to be exported offsite for spreading on land by**

a registered carrier. Extended the dirty water drainage system for new heat exchangers, chiller room, macerator parking area and wheel wash.

8. Established precedent for mobile macerator as a directly associated activity in another permit (EPR/BP3430KL/V004 Lopham Poultry Unit issued 17/05/2024). Limited the specified activity from receipt of eggs, bird carcasses and fuels to removal of associated wastes from site. Operational limit of 4.7 tonnes per day based on maximum operation of 1 hour per day. Same scope, operating capacity and time will be sufficient for use at Great Westwick Farm Poultry Unit.
9. Start of every batch use new litter material evenly spread over entire floor area prior to delivery of eggs or chicks. Use a proprietary blend of dust extracted chopped straw/wood shavings or chopped straw to provide absorbent bedding. Nipple drinking systems with cups installed, provide chickens drinking water without spillages, keeps litter dry and minimise ammonia and odour. Water consumption monitored daily with meters.
10. Chickens reared in batches, all-in-all-out for biosecurity. Birds will arrive as incubated eggs for hatching in the houses where they will be reared or day-old chicks from a hatchery. Reared to around 31 days of age, then start destocking - a quarter will be removed from each house 'thinned' and transported to the abattoir. Remainder reared to around 38 days of age then transported to the abattoir. Normally 10 days washing-out and empty in between batches so approx. 7.6 batches per annum.
11. Feed broiler chickens ad-lib with a minimum of three pelleted compound diets with decreasing percentage crude protein and phosphorous in each to match content as closely as possible to chickens nutritional requirements at each stage of growth and reduce nitrogen and phosphorus excretion into the litter. Use authorised feed additives to lower the percentage of crude protein. Add synthetic essential amino acids to supplement naturally low levels in wheat-based diets. Add highly digestible inorganic phosphates for partial replacement of conventional sources of phosphorous in the feed. Add enzymes to make more of the naturally occurring amino acids and phosphorus available to chickens.
12. Store feedstuffs in package silos and augers, fully enclosed and protected from vehicle collision damage by careful siting relative to traffic flow in between houses or at side of houses, with kerbs or barriers. Deliver feedstuffs via augers into pan feeders to minimise waste, dust and odour.
13. Dead-in-shell and non-viable eggs quickly collected up after hatching and disposed of using instantaneous maceration with immediate death, and any unviable chicks euthanised by cervical dislocation. Use a package mobile macerator designed for hatchery waste installed inside a mobile trailer delivered to site and located and used on the designated macerator parking area next to the chiller room, usually moved on same day. Wash and disinfect macerator and collecting buckets before leaving. Dirty wash water collected into the macerated eggs in secure, covered, containers, not into any surface water drains or the dirty water tank, and never spread on land. Dead chicks and carcasses removed from houses daily. Stored in secure, covered containers in the chiller room to minimise odour and flies and frequently removed offsite under National Fallen Stock Scheme.

14. Used litter removed immediately after houses destocked to minimise dust and odour. Exported offsite in covered trailers for spreading on land to confer agricultural benefit or supplied as fuel to a local power station. Houses and equipment are pressure washed, disinfected, and dried, before restocking.
15. International and European sites for nature conservation within 5km – Foulness (Mid-Essex Coast Phase 3) Ramsar, Foulness (Mid-Essex Coast Phase 5) Ramsar, Foulness (Mid-Essex Coast Phase 3) Special Protection Area (SPA), Foulness (Mid-Essex Coast Phase 5) SPA, Essex Estuaries Special Area of Conservation, Crouch & Roach Estuaries Site of Special Scientific Interest (SSSI), Goldsands Road Pit SSSI (Geological feature). Dwelling houses and agricultural premises are sensitive receptors within 400m for dust, noise and odour.

## 4 Management systems

*Table 1: Summary of environment management system for Great Westwick Fm Poultry Unit*

Technical guidance	An environment management system will be in place in accordance with Environment Agency (2010) SGN EPR 6.09 V2.
Normal operations	<ul style="list-style-type: none"> <li>• Daily records will be kept on all aspects of the farm's operation including: <ul style="list-style-type: none"> <li>○ Water consumption</li> <li>○ Feed consumption and deliveries</li> <li>○ Bird mortalities</li> <li>○ Poultry house temperature and humidity</li> <li>○ Waste collections.</li> </ul> </li> <li>• Daily inspection by staff around the site to ensure equipment is operating correctly.</li> </ul>
Maintenance schedule and records	<ul style="list-style-type: none"> <li>• A programme of planned preventive maintenance will be carried out on all plant and equipment including the ventilation fans, feeding and water systems.</li> <li>• Inspection and maintenance schedules based on manufacturer's recommendations.</li> <li>• Emergency backup diesel-fired generator (thermal input 0.378 MW or 440 KVA) at Great Westwick Farm Poultry Unit to guarantee sufficient air renewal for chicken welfare. Thermal input less than 1 MW so not a specified generator under the Environmental Permitting Regulations and not in scope of 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.</li> <li>• Buildings and equipment on site will be regularly inspected and checked for visual signs of leakage, corrosion, structural damage, security, and correct operation.</li> <li>• A record of all faults, maintenance work and inspections will be kept in the site office.</li> </ul>
Incidents and abnormal operations	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
Complaint system	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
Accidents	<ul style="list-style-type: none"> <li>• Site has an accident management plan which will be implemented if an accident occurs. Events or failures that could damage the</li> </ul>

	<p>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 <a href="https://www.gov.uk/guidance/develop-a-management-system-environmental-permits#accident-prevention-and-management-plan">https://www.gov.uk/guidance/develop-a-management-system-environmental-permits#accident-prevention-and-management-plan</a>.</p>
Training and qualifications	<ul style="list-style-type: none"> <li>• Staff will be appointed prior to resuming operations, owing to farm not recently been in use, and will be full-time employees.</li> <li>• 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.</li> <li>• All staff will receive formal training from both the Site Manager and an external training provider.</li> <li>• 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.</li> <li>• New staff will be mentored as part of their on-the-job training.</li> <li>• Staff and contractors will have defined roles.</li> <li>• Training and instruction of staff and contractors will be recorded in the training plan.</li> </ul>
Site security	<ul style="list-style-type: none"> <li>• Site will have a secure perimeter fence.</li> <li>• Poultry houses are securely locked at night.</li> <li>• Site gates locked at night to prevent pedestrian and vehicle access out of hours.</li> <li>• The fuel oil and LPG tanks will be secure and locked.</li> <li>• No public footpath through any part of the site.</li> </ul>
Site closure plan	<ul style="list-style-type: none"> <li>• 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 any potentially polluting substances and decommissioning and removing equipment, plant, buildings, hard standing and underground structures.</li> </ul>
Certification	<ul style="list-style-type: none"> <li>• Installation will be operated in accordance with a poultry assurance certification scheme including the EMS.</li> </ul>

## 7 Emissions to air, water, and land

*Table 2 Emissions (releases) at Great Westwick Farm Poultry Unit*

Emission point description and location	Source
<b>Point source emissions to air</b>	
Medium velocity roof fan outlets (vents greater than 3.5m high and fan efflux velocity greater than 2m/s) as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Poultry house 1-5
Exhaust fan outlets from heat exchangers as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Poultry house 1-5
Vent outlets from liquefied petroleum gas (LPG) storage tanks as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	LPG storage tanks
Exhaust outlet from emergency backup diesel-fired generator as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Emergency backup diesel-fired generator
Vent from integral diesel tank as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Diesel tank for backup generator
<b>Point source emissions to water</b>	
W1 Outlet <b>at NGR TQ 9890 9664 into offsite water course (drain)</b> south of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Uncontaminated surface water from concrete apron (no catching, mucking-out or washing)
W2 Outlet <b>at NGR TQ 9884 9664 into offsite water course (drain)</b> south of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Uncontaminated surface water from concrete apron (no catching, mucking-out or washing)
W3 Outlet <b>at NGR TQ 9880 9668 into offsite water course (drain)</b> west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24	Uncontaminated roof water from poultry houses 1-3

Jan 2025 included with the application for EPR/TP3837MY/V004	
W4 Outlet at NGR TQ 9880 9670 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Uncontaminated roof water from poultry houses 1-3
W5 Outlet at NGR TQ 9880 9672 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry houses 1-3
W6 Outlet at NGR TQ 9880 9674 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry houses 1-3
W7 Outlet at NGR TQ 9880 9676 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry houses 1-3
W8 Outlet at NGR TQ 9880 9679 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Uncontaminated surface water from concrete apron (excluding all times concrete apron is contaminated e.g., catching, mucking-out or washing)
W9 Outlet at NGR TQ 9880 9679 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry house 4
W10 Outlet at NGR TQ 9880 9682 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry house 4
W11 Outlet at NGR TQ 9880 9682 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the	Uncontaminated surface water from concrete apron (excluding all times



Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	concrete apron is contaminated e.g., catching, mucking-out or washing)
W12 Outlet at NGR TQ 9880 9682 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry house 5
W13 Outlet at NGR TQ 9880 9685 into offsite water course (drain) west of boundary, tributary of the River Crouch as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry house 5
<b>Point source emissions to land</b>	
French drains filled with stones acting as soakaways under eaves of poultry houses 4&5 as shown on the Powell & Co Site Plan 03078 rev D dated 24 Jan 2025 included with the application for EPR/TP3837MY/V004	Roof water from poultry houses 4&5
<b>Point source emissions to sewer, effluent treatment plants or other transfers offsite</b>	
None	

## 8 Operating techniques

**Table 3 Technical Standards for Great Westwick Farm Poultry Unit**

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	<ul style="list-style-type: none"> <li>Environment Agency (2010) EPR 6.09 Sector Guidance Note: How to comply – Intensive Farming Version 2.</li> <li>Best Available Techniques (BAT) Reference Document for the Intensive Rearing of Poultry or Pigs 2017.</li> </ul>

**Table 4 Measures to control emissions at Great Westwick Farm Poultry Unit**

<p>Selection &amp; use of feed.</p> <p>Technical standard: you must take appropriate measures to provide a diet which minimises the excretion of nitrogen and phosphorous.</p>	<ul style="list-style-type: none"> <li>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.</li> <li>Package feed delivery equipment - storage silos, augers, pipes, and feeders, etc will be designed to accommodate the required feeding regime for rearing broiler chickens.</li> </ul>
<p>Housing design &amp; management.</p> <p>Technical standard: you must take appropriate measures in the design and management of housing to minimize the emissions from those systems</p>	<p><u>Housing</u></p> <p>Poultry houses designed and constructed to modern specifications – clear span portal construction on concrete floors poured over a continuous damp proof membrane, concrete panel walls and insulated walls and roofs with steel cladding. Walls and roofs fully insulated with a U-Value of approximately 0.4 W/m<sup>2</sup>/°C to reduce condensation and heat loss.</p> <p><u>Litter</u></p> <p>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.</p> <p><u>Temperature</u></p> <p>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.</p> <p><u>Ventilation</u></p> <p>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:</p> <ul style="list-style-type: none"> <li>Operated to achieve optimum humidity levels for the stage of production in all weather and seasonal conditions.</li> </ul>

	<ul style="list-style-type: none"> <li>Control of minimum ventilation rates planned to avoid build-up of moisture.</li> <li>Houses managed to maintain litter as dry and friable as possible.</li> <li>Dust controlled through the management of litter and air quality.</li> <li>Medium velocity roof fan outlets (vents greater than 3.5m high and fan efflux velocity greater than 2m/s).</li> <li>Uncapped outlets on ridge to avoid dust deposition on roof and contamination of rainwater runoff.</li> <li>Uncontaminated runoff water from roofs and open concrete apron (excluding during periods of depopulating &amp; washing out) conveyed via solid underground pipes into an offsite watercourse at Great Westwick Farm Poultry Unit.</li> </ul> <p><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.</p>
Livestock numbers and movements	<ul style="list-style-type: none"> <li>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.</li> </ul>
Slurry spreading and manure management planning – offsite activity	<ul style="list-style-type: none"> <li>Records will be kept of the quantities and date of transfers for example to power station or biogas plant for recovery or third party for spreading to land for benefit to agriculture or ecological improvement.</li> <li>The names and addresses and land hectares available where manure is exported for spreading to land.</li> </ul>
Slurry spreading and manure management planning – onsite activity	<ul style="list-style-type: none"> <li>Litter will not be spread by the operator or employees on the site (land belonging to the operator); or by a contractor.</li> </ul>
<p>Spreading of manure and slurry to minimise emissions to air</p> <p>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</p>	<ul style="list-style-type: none"> <li>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.</li> </ul>

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	<p>Appropriate measures for preventing and minimising fugitive emissions will be in place with provisions for:</p> <ul style="list-style-type: none"> <li>• Buildings &amp; equipment will be well maintained &amp; kept in good repair.</li> <li>• Areas around buildings kept free from build-up of litter &amp; spilt feed.</li> <li>• Drainage from poultry houses and water from washout will be collected in package underground storage tanks shown on the drainage plan.</li> <li>• 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 wash water into the dirty water tank. Clean drainage systems will not be contaminated.</li> <li>• Drainage from yard contaminated by litter or wash water will be collected in below ground dirty water tanks.</li> <li>• The dirty water collection systems and package 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.</li> <li>• Footbaths will be managed so that they do not overflow and spent disinfectants will be emptied into the dirty water tanks.</li> <li>• Wheel washings will be prevented from entering into surface water or groundwater.</li> </ul>
Dust	<p>The Environmental Risk Assessment submitted with application variation V004 shows dust has been identified as having potentially minor and moderate significance:</p> <ul style="list-style-type: none"> <li>• Sensitive receptors for dust within 100m of installation boundary.</li> <li>• 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.</li> <li>• Feed will be delivered direct from suppliers and blown directly into silos.</li> <li>• Feed will be delivered into the houses by package augers and pipes.</li> <li>• No milling or mixing of feed will take place at the farm.</li> <li>• Used litter will not be stored onsite.</li> <li>• Routine and contingency actions to minimise dust and bio-aerosol risks will be in accordance with EPR6.09 and the BREF.</li> <li>• Submitted updated dust &amp; bio-aerosol management plan with application.</li> </ul>
Carcase management including mobile macerator	<p>Appropriate measures to prevent/ minimise fugitive emissions will be in place:</p> <ul style="list-style-type: none"> <li>• Mobile macerator contained inside small, covered trailers, towed on a van.</li> <li>• Workers and macerator arrive onsite day after hatching, and all remaining unviable and unhatched eggs, including pipping and dead-in-shell, will be gathered off the litter into buckets. They will be quickly, humanely killed in a macerator to produce immediate death, and unviable chicks killed by dislocation of the neck in accordance with legal requirements.</li> <li>• Store macerated eggs, dead chicks, dirty water from cleaning the macerator and carcasses of dead chickens in secure, non-leaking</li> </ul>

	<p>containers with lids and keep locked. Classified as category 2 animal by-products for processing offsite e.g. rendering.</p> <ul style="list-style-type: none"> <li>• No unviable, unhatched eggs stored anywhere else before macerating.</li> <li>• No point source emissions to air, water or land. No extraction fans on trailers. Dirty water from cleaning and disinfecting macerator and buckets, etc collected into the carcass containers for processing offsite e.g. rendering. Never add dirty water from cleaning macerator into the dirty water storage tank destined for land spreading.</li> <li>• Rent containers, frequent collections planned by an approved transporter, under National Fallen Stock Scheme.</li> <li>• Teams of workers &amp; macerators cover all sites, so work not delayed by any normal working onsite and eggs picked up and macerated quickly.</li> <li>• Macerator not considered to have any specific odour or noise issues.</li> </ul>
Flies	Appropriate actions will be implemented to prevent, and control flies should problems occur.
Measures for bunding and containment	<p>(a) <u>Agricultural fuel oil and other chemical storage:</u></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul> <p>(b) <u>Feedstuffs</u></p> <ul style="list-style-type: none"> <li>• Poultry feed will be stored in package feed silos.</li> <li>• Protected from vehicle collision damage by careful siting relative to traffic flows in between houses, and with kerbs or barriers.</li> </ul> <p>(c) <u>Heat Exchangers</u></p> <ul style="list-style-type: none"> <li>• Condensate from the heat exchangers and dirty water from the washout end of each rearing cycle will be conveyed through solid underground pipes direct into the dirty water tanks.</li> <li>• The heat exchangers will be operated and maintained in accordance with the manufacturers recommendations.</li> </ul>
Odour	<p>The Environmental Risk Assessment submitted with application variation V004 shows odour has been identified as having potentially minor significance:</p> <ul style="list-style-type: none"> <li>• Sensitive receptors for odour within 400m of installation boundary.</li> <li>• Routine and contingency actions to minimise odour risks will be in accordance with EPR6.09 and BREF.</li> <li>• Submitted updated odour management plan with application.</li> </ul>
Noise & vibrations	The Environmental Risk Assessment submitted with application variation V004 shows noise has been identified as having potentially minor significance:

	<ul style="list-style-type: none"> <li>• Sensitive receptors for noise within 400m of installation boundary.</li> <li>• Routine and contingency actions to minimise noise risks will be in accordance with EPR6.09 and BREF.</li> <li>• Submitted an updated noise management plan with application.</li> </ul>
Emergency backup generator	<ul style="list-style-type: none"> <li>• Emergency backup diesel-fired generator (thermal input 0.378 MW or 440 KVA) at Great Westwick Farm Poultry Unit to guarantee sufficient air renewal for chicken welfare. Thermal input less than 1 MW so not a specified generator under the Environmental Permitting Regulations and not in scope of Medium Combustion Plant Directive. Operated for the purpose of testing for not more than 50 hours per year and use the electricity generated from the test and not operated for more than 500 hours per year averaged over three years, including for testing.</li> <li>• Calculated thermal input from information provided by supplier.</li> <li>• Grid outages rarely happen.</li> </ul>

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

Environment Agency initiated a permit variation in 2021 (V003) result of the Intensive Farming BAT compliance permit review. Concluded the operator will be compliant with the Environmental Permitting Regulations/Industrial Emissions Directive if they are compliant with their existing permit as varied, including updated permit conditions and schedules. Included the Agency's permitting decisions (*italic*) under how the site is demonstrating compliance in Table 5 below.

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

<b>BAT</b>	<b>Description</b>	<b>How is the site demonstrating compliance</b>
BAT 1	<p><b>EMS</b></p> <p><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>	<p><i>Operator already holding 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 where necessary odour and noise management plans. This is a requirement of the existing general management condition in the permit.</i></p> <p><i>By 21 February 2021, the operator will be required to update their management system to include an environmental policy statement and demonstrate their commitment of their management to the EMS. This will be checked during routine compliance inspections.</i></p> <p>Operator will adhere to an environmental management system that incorporates all of the features, including Cranswick plc, Group Environmental &amp; Energy Policy will be in place (ultimate parent holding).</p>
BAT 2	<p><b>Good housekeeping</b></p> <p><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>	<p><i>The operator is already required to manage their operation as set out in the existing general management and operating techniques conditions in the permit. In complying with these conditions, we expect the operator to use most of the techniques identified in BAT2.</i></p> <p>Operator will use all of the techniques given:-</p> <ul style="list-style-type: none"> <li>• Proper location of the plant/farm and spatial arrangements of the activities in order to: <ul style="list-style-type: none"> <li>○ prevent the contamination of water.</li> </ul> </li> <li>• Educate and train staff, in particular for: <ul style="list-style-type: none"> <li>○ relevant regulations, livestock farming, animal health and welfare, manure management, worker safety</li> <li>○ manure transport and land-spreading</li> <li>○ planning of activities</li> <li>○ emergency planning and management</li> <li>○ repair and maintenance of equipment.</li> </ul> </li> <li>• Prepare an emergency plan for dealing with unexpected emissions &amp; incidents such as pollution of water bodies including:</li> </ul>

		<ul style="list-style-type: none"> <li>○ a plan of the farm showing the drainage systems and water and effluent sources.</li> <li>○ plans of action for responding to certain potential events for example fire, oil spillages.</li> <li>○ available equipment for dealing with a pollution incident for example spill kit for oil spillages.</li> <li>● Regularly check, repair, &amp; maintain structures &amp; equipment such as: <ul style="list-style-type: none"> <li>○ water and feed supply systems</li> <li>○ ventilation systems and temperature sensors,</li> <li>○ silos, and transport equipment,</li> <li>○ cleanliness of the farm, and pest management.</li> </ul> </li> <li>● Store dead animals in such a way as to prevent or reduce emissions.</li> </ul>
<b>Nutritional management</b>		
BAT 3	<p><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 techniques given [in the BAT conclusions document].</i></p>	<p><i>Operator already required to have a nutritional strategy to reduce nitrogen and phosphorous. This requirement is incorporated into the existing operating techniques condition in the permit.</i></p> <p><i>In addition, the variation included a new condition requiring the operator to report annually the levels of nitrogen and phosphorous excretion per animal place to demonstrate compliance with the BAT-associated total nitrogen and phosphorous excreted. The operator will now need to submit monitoring to demonstrate they are compliant. If they are not compliant with the BAT-associated total nitrogen and total phosphorous excreted they will be in breach of the permit and will need to revisit their nutritional management techniques. Based on our review, and engagement with industry, we expect all operators to meet the BAT-associated excretion levels.</i></p> <p><i>Where the BAT-associated total nitrogen &amp; total phosphorous excreted level is not met the operator will be required to consider and adopt alternative diets or feed additives which enable them to meet the level.</i></p> <p>Operator will use a combination of the techniques given:-</p> <ul style="list-style-type: none"> <li>● Reduce 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.</li> <li>● 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.</li> </ul>



		<ul style="list-style-type: none"> <li>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.</li> </ul>
BAT 4	<p><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></p>	<p>As BAT 3.</p> <p>Operator will use a combination of the techniques given:-</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ul>
BAT 5	<p><b>Efficient use of water</b></p> <p><i>In order to use water efficiently, BAT is to use a combination of the techniques given [in the BAT conclusions document].</i></p>	<p>Operator is already required to minimise the use of water as set out in the existing efficient use of raw materials in the permit.</p> <p>Operator will use a combination of techniques given:-</p> <ul style="list-style-type: none"> <li>Keep a record of water use</li> <li>Detect and repair water leakages</li> <li>Use high pressure cleaners for cleaning animal housing and equipment</li> <li>Select and use suitable equipment e.g. nipple drinkers with drip cups for chickens while ensuring water availability (ad-libitum).</li> </ul>
<b>Emissions from waste water</b>		
BAT 6	<p><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></p>	<p>These requirements are fulfilled through existing permit conditions on general management, the efficient use of raw materials and emissions of substances not controlled by emissions limits.</p> <p>Operator will use all of the techniques given:-</p> <ul style="list-style-type: none"> <li>Keep the fouled yard areas as small as possible</li> <li>Minimise use of water</li> <li>Segregate uncontaminated rainwater from waste water streams that require treatment.</li> </ul>

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>	<p><i>The operator is already required to minimise emissions of waste water through existing permit conditions on general management, operating techniques and emissions of substances not controlled by emissions limits.</i></p> <p><i>Where appropriate the operator is already expected to have dedicated slurry and/or wash water storage which is compliant with BAT standards (equivalent to the standards set out in The Silage Slurry and Agricultural Fuel Oil Regulations (SSAFO). These requirements also apply to reception pits, channels, underground tanks, and pipework and requires that slurry is collected and contained.</i></p> <p>Operator will use a combination of the techniques given:-</p> <ul style="list-style-type: none"> <li>• Drain waste water to dedicated containers</li> <li>• Land spreading of waste water.</li> </ul>
BAT 8	<p><b>Efficient use of energy</b></p> <p><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>	<p><i>The operator is already required to minimise the use of energy through existing permit conditions on general management and energy efficiency.</i></p> <p>Operator will use a combination of techniques given:-</p> <ul style="list-style-type: none"> <li>• High efficiency heating/cooling and ventilation system</li> <li>• Insulation of the walls and ceilings of animal housing</li> <li>• Use of energy efficient lighting.</li> <li>• Use of air-air heat exchangers.</li> </ul>
<b>Noise emissions</b>		
BAT 9	<p><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).</i></p> <p><i>BAT 9 is only applicable to cases where a noise nuisance at sensitive receptors is expected and/or has been substantiated.</i></p>	<p><i>A noise management plan (NMP) is in place when there are relevant receptors within 400m of the installation boundary or there have been substantiated complaints. This reflects our current approach, and no change is required.</i></p> <p><i>This conclusion is only applicable where we expect noise pollution, or it has been substantiated. We anticipate the potential for noise pollution within 400m of sites, and require operators with receptors located within this distance, or at sites where noise complaints have been substantiated at receptors outside this distance, to have an NMP. This is already detailed in the existing permit condition on noise and vibration in the permit. This condition allows for us to require a NMP if not previously in place. In the event of noise complaints or other evidence of risk of noise pollution beyond the installation boundary.</i></p> <p><i>The NMP needs to be regularly updated and reviewed to prevent noise pollution and ensure compliance.</i></p> <p>Operator will use a combination of techniques given:-</p>

		<ul style="list-style-type: none"> <li>Submitted an updated NMP with the application owing to sensitive receptors within 400m of the boundary that includes the following elements:</li> <li>A protocol containing appropriate actions and timelines</li> <li>A protocol for conducting noise monitoring</li> <li>A protocol for response to identified noise events.</li> </ul> <p>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.</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><i>Noise minimisation has been considered in equipment location and operation in the permit determination stage.</i></p> <p><i>The operator is already required to prevent and minimise noise through the existing permit conditions on general management, operating techniques and noise and vibration. The existing operating techniques permit condition already allows us to require the operator to update the NMP to introduce additional BAT measures to minimise the risk of noise pollution beyond the installation in the event of substantiated noise complaints at local receptors.</i></p> <p>Operator will use a combination of techniques given:-</p> <ul style="list-style-type: none"> <li>Equipment location</li> <li>Operational techniques</li> <li>Low noise equipment.</li> </ul> <p>The techniques are described in the NMP.</p>
BAT 11	<p><b>Dust emissions</b></p> <p><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>	<p><i>Techniques are already in place to reduce dust generation inside sheds such as ad-libitum feeding.</i></p> <p><i>The operator is already required to minimise dust emissions through existing permit conditions on general management, operating techniques and emissions of substances not controlled by emission limits.</i></p> <p>Operator will use a combination of the techniques given:-</p> <ul style="list-style-type: none"> <li>Reduce dust generation inside livestock buildings. For this purpose, a combination of the following techniques will be used:-</li> <li>Use coarser litter material. Will use proprietary mixture of coarser wood shavings and chopped straw</li> <li>Apply fresh litter using a low-dust littering technique. Litter supplied in plastic wrapped bales and apply by hand</li> </ul>

		<ul style="list-style-type: none"> <li>• Equip dry feed stores which are filled pneumatically with dust separators</li> <li>• Ad-libitum feeding.</li> </ul>
<b>Odour emissions</b>		
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><i>An odour management plan (OMP) is in place when there are relevant receptors within 400m of the installation boundary or there have been substantiated complaints. This reflects our current approach, and no change is required.</i></p> <p><i>This conclusion is only applicable where we expect odour pollution, or it has been substantiated. We anticipate the potential for odour pollution within 400m of sites, and require operators with receptors located within this distance, or at sites where odour complaints have been substantiated at receptors outside this distance, to have an OMP. This is already detailed in the existing permit condition on odour in the permit. The condition allows for us to require an OMP if not previously in place, in the event of odour complaints or other evidence of risk of odour pollution beyond the installation boundary.</i></p> <p><i>The OMP needs to be regularly updated and reviewed to prevent odour pollution and ensure compliance.</i></p> <p><i>Operator will use a combination of techniques given:-</i></p> <ul style="list-style-type: none"> <li>• Submitted an updated OMP with the application owing to sensitive receptors within 400m of the boundary that includes the following elements:</li> <li>• A protocol containing appropriate actions and timelines</li> <li>• A protocol for conducting odour monitoring</li> <li>• A protocol for response to identified odour nuisance.</li> </ul> <p><i>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.</i></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><i>Odour minimisation has been considered in equipment location and operation in the permit determination stage.</i></p> <p><i>The operator is already required to prevent and minimise odour through the existing permit conditions on general management, operating techniques, and odour. The existing operating techniques permit condition already allows us to require the operator to update the OMP to introduce additional BAT measures to minimise the risk of odour pollution beyond the installation in the event of substantiated odour complaints at local receptors.</i></p>

		<p>Operator will be using a combination of the techniques given:-</p> <ul style="list-style-type: none"> <li>• Use a housing system which implements a combination of the principles:</li> <li>• Keeping the chickens and the surfaces dry and clean, and</li> <li>• keeping the litter dry and under aerobic conditions</li> <li>• Optimise the discharge conditions of exhaust air from the poultry houses by using a combination of the techniques given:</li> <li>• Increasing the outlet height – exhaust air above roof level, stacks, exhaust air through the ridge instead of through the low part of the walls</li> <li>• Increasing the vertical outlet ventilation velocity.</li> </ul> <p>The techniques have been described in the OMP.</p>
<b>Emissions from solid manure storage</b>		
BAT 14	<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>	Not applicable, no used poultry litter will be stored onsite.
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>	Not applicable, no used poultry litter will be stored onsite.
<b>Emissions from slurry storage</b>		
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>	Not applicable, store dirty water in a package, below ground tank.
BAT 17	<i>In order to reduce ammonia emissions to air from an earth-banked slurry store (lagoon),</i>	Not applicable, no earth-banked slurry store onsite.

	<i>BAT is to use a combination of the techniques [in the BAT conclusions document].</i>	
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>	Not applicable, no earth-banked slurry store onsite.
BAT 19	<b>On farm processing of manure</b> <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 applying one or a combination of the techniques given [in the BAT conclusions document].</i>	Not applicable, no manure processing onsite.
<b>Manure land spreading</b>		
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><i>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.</i></p> <p>Not applicable, no used poultry litter will be spread onsite.</p>

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>	<p><i>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.</i></p> <p>Not applicable, no used poultry litter will be spread onsite.</p>
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><i>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.</i></p> <p>Not applicable, no used poultry litter will be spread onsite.</p>
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>	<i>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.</i>
<b>Monitoring of emissions and process parameters</b>		
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>	<p><i>The operator will now be required to comply with a new permit condition which sets out a requirement to monitor nitrogen and phosphorous levels in livestock manure.</i></p> <p><i>This can be carried out using a mass balance of nitrogen based on the feed intake, dietary content of crude protein and animal performance or estimation by using manure analysis for total nitrogen content and the equivalent for phosphorous.</i></p> <p>Operator will be using one of the techniques given:-</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul>

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>	<p><i>The operator will now be required to comply with a new permit condition setting out a requirement for annual reporting on ammonia emissions. This should not represent a new requirement as they already submit this in their Pollution Inventory return.</i></p> <p><i>We expect all operators will demonstrate compliance using emissions factors (one of the identified techniques) however they may choose to monitor ammonia emissions using a suitable and agreed monitoring protocol.</i></p> <p>Operator will be using one of the techniques given:-</p> <ul style="list-style-type: none"> <li>• Estimation by using emission factors.</li> </ul>
BAT 26	<i>BAT is to periodically monitor odour emissions to air.</i>	<p><i>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.</i></p> <ul style="list-style-type: none"> <li>• Submitted an updated OMP with the application owing to sensitive receptors within 400m of the boundary that includes 'sniff-testing'.</li> </ul>
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>	<p><i>The operator will now be required to comply with a new permit condition setting out a requirement for annual reporting of dust emissions. For pigs this is a new requirement. We expect all operators will demonstrate compliance using the emissions factors techniques.</i></p> <p>Operator will be using one of the techniques given:-</p> <ul style="list-style-type: none"> <li>• Estimation by using emission factors.</li> </ul>
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>	<p><i>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.</i></p> <p>Not applicable, not proposing any air cleaning systems.</p>



BAT 29	<p><i>BAT is to monitor the following process parameter at least once every year:-</i></p> <ul style="list-style-type: none"> <li>• <i>Water consumption</i></li> <li>• <i>Electric energy consumption</i></li> <li>• <i>Fuel consumption</i></li> <li>• <i>Number of incoming and outgoing animals</i></li> <li>• <i>Feed consumption</i></li> <li>• <i>Manure generation.</i></li> </ul>	<p><i>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.</i></p> <p>Operator will monitor all the process parameters at least once per year:</p> <ul style="list-style-type: none"> <li>• Water consumption</li> <li>• Electric energy consumption</li> <li>• Fuel consumption</li> <li>• Number of incoming and outgoing animals, including deaths</li> <li>• Feed consumption</li> <li>• Manure generation.</li> </ul>
BAT 30	<p><b>Ammonia emissions from pig houses</b></p> <p><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></p>	Not applicable to rearing broiler chickens.
BAT 31	<p><b>Ammonia emissions from houses for laying hens, broiler breeders or pullets</b></p> <p><i>In order to reduce ammonia emissions to air from each house for <b>laying hens, broiler breeders or pullets</b>, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i></p>	Not applicable to rearing broiler chickens.
BAT 32	<p><b>Ammonia emissions from houses for broilers</b></p> <p><i>In order to reduce ammonia emissions to air</i></p>	<p><i>We are confident that broiler farm installations will be able to comply with the objective of BAT 32 via the usage of existing housing and operating techniques.</i></p> <p><i>This is based on the operator using techniques listed in this conclusion and achieving the BAT-AELs or by demonstrating the method used</i></p>

	<p>from each house for <b>broilers</b>, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</p>	<p>produces an equivalent level of protection. 'Equivalence' will need to be confirmed through emissions monitoring to show compliance with the BAT-AELs. Our review of housing types in England indicated that all operators should already be compliant with the techniques set out in BAT31. This will be checked during routine compliance inspections.</p> <p>The operator is required to comply with the new permit condition to carry out annual monitoring and reporting. The results will need to meet the associated BAT-AELs. We expect the operator will demonstrate compliance using emission factors.</p> <p>Compliance with AELs is covered under a new condition and associated process monitoring table.</p> <p>Operator will be using a combination of the techniques given:</p> <ul style="list-style-type: none"> <li>• Forced ventilation and a non-leaking drinking system (in case of solid floor with deep litter).</li> <li>• Forced drying system of litter using indoor air (in case of solid floor with deep litter). At Great Westwick Farm Poultry Unit heat exchanger on every house for ventilation and energy efficiency. Fans inside houses recirculate warm air from the ceiling down to floor level and spread it over eggs and chicks. Keeps the surface of the litter dry and reduces ammonia and odour.</li> </ul>
BAT 33	<p><b>Ammonia emissions from houses for ducks</b></p> <p><i>In order to reduce ammonia emissions to air from each house for <b>ducks</b>, BAT is to use one or a combination of the techniques given [in the BAT conclusions document].</i></p>	Not applicable to rearing broiler chickens.
BAT 34	<p><b>Ammonia emissions from houses for turkeys</b></p> <p><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</i></p>	Not applicable to rearing broiler chickens.

	<i>the BAT conclusions document].</i>	
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## 8 Operating techniques

*Table 6 Raw materials inventory for Great Westwick Farm Poultry Unit*

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

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

## 10 Resource efficiency and climate change

*Table 7 Energy usage at Great Westwick Farm Poultry Unit*

Energy source	Use
Grid electricity	Ventilation system including heat exchangers, extraction fans, recirculation fans for indoor air, 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	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 Great Westwick Farm*

Activity	Basic energy efficiency measures
Heating	<ul style="list-style-type: none"> <li>Houses fully insulated with a U-value of approximately 0.4 W/m<sup>2</sup>/°C to reduce condensation and heat loss.</li> <li>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.</li> <li>Nipple drinking systems with drip cups reduce water spillages.</li> <li>Package LPG-fired heaters, equally distributed to prevent cold spots or sensors triggering and activating heaters unnecessarily.</li> <li>At Great Westwick Fm Poultry Unit package heat exchanger on every house for ventilation and energy efficiency.</li> <li>Houses monitored by a computer system, which automatically controls and records humidity and temperature.</li> <li>Temperature control sensors checked regularly and kept clean, so they are able to detect the temperature at stock level.</li> <li>Pre-warm houses at start of rearing cycle to keep eggs and chicks at correct temperature.</li> <li>Keep fabric of houses in good condition, cracks and open seams will be repaired, including in the concrete floor.</li> <li>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.</li> </ul>
Ventilation system	<ul style="list-style-type: none"> <li>Package ventilation system designed and installed by a professional contractor.</li> <li>Forced ventilation via side inlets for fresh air and medium velocity extraction fans, on account more than 3.5 but less than 5.5m high and fan efflux velocity greater than 7m/s.</li> <li>Appropriate size and power fans to minimise energy consumption, the fans are low energy per m<sup>3</sup> of air.</li> </ul>

	<ul style="list-style-type: none"> <li>• Automatic, computer control system will control the ventilation for maximum efficiency.</li> <li>• 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.</li> <li>• More extraction fans turned on and side inlets opened 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.</li> <li>• Extraction fans fitted with back draft shutters to reduce heat loss.</li> <li>• Ventilation system switched off in empty houses, and after a drying period following washing and disinfecting.</li> <li>• 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 contractors.</li> <li>• 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.</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>• Use a combination of natural and artificial lighting.</li> <li>• Use windows in sides of houses and energy efficient LED lighting.</li> <li>• Lighting follows a 24-hour rhythm allowing enough light for normal behaviours, inspections, and dark periods for rest.</li> </ul>
Gasoline (red diesel)	<ul style="list-style-type: none"> <li>• Package, emergency back-up diesel-fired generator to provide electricity in event of grid outage.</li> <li>• Fuel level will be checked for use or signs of leakage.</li> <li>• 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.</li> </ul>
Monitoring	<ul style="list-style-type: none"> <li>• Read electricity meters every day and recording kWh used.</li> <li>• Recording litres of LPG and diesel delivered to site.</li> </ul>

*Table 9 - Breakdown of delivered and primary energy consumption will be recorded and provided to the Environment Agency annually in the following format:*

<b>Energy source Delivered MWh</b>	<b>Energy consumption Primary MWh</b>	<b>% Of total</b>
Electricity		
LPG		
Diesel		
Other (Operator to specify)		
<b>Exported energy</b>	<b>MWh</b>	<b>Source</b>
	N/a	N/a

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

*Table 10 – Treating waste in accordance with the waste hierarchy at Great Westwick Farm*

Used poultry litter	Export offsite for recovery by land spreading to confer agricultural or ecological benefit or used as fuel for biogas or 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.

**Q15 Application checklist, continued**

Document title	Document reference
Noise management plan	Application Variation V004 Noise management plan
Delegated authority for declaration	Delegated authority for Crown Chicken signed by Mr B Lock