

BEST AVAILABLE TECHNIQUES ASSESSMENT

Chequerhouse Farm, Thievesdale Lane, Retford, DN22 8JA

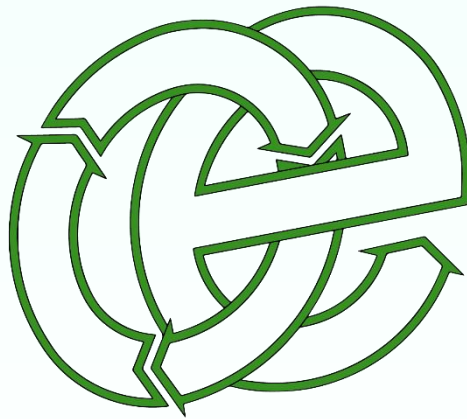
Chequerhouse Farm Limited

Version:	1.1	Date:	22nd June 2026		
Doc. Ref:	098-CHF-BAT	Author(s):	DY	Checked:	CFL
Client No:	098	Job No:	024		

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Document History:

Version	Issue date	Author	Checked	Description
1.0	15/06/2026	DY		Draft for client comment
1.1	22/06/2026	DY	CFL	Submitted to EA with permit application

Contents

Document History:	i
Contents	ii
1 Introduction	3
2 BAT Assessment	4
2.1 Assessment of BAT Against Commission Implementing Decision (EU) 2017/302	4

1 Introduction

- 1.1 This document includes an assessment of Best Available Techniques (BAT), which has been undertaken against the relevant BAT measures contained within the following document:
- Commission Implementing Decision (EU) 2017/302 of 15 February 2017 Establishing Best Available Techniques (BAT) Conclusions for the intensive rearing of poultry or pigs.
- 1.2 This document has been prepared as part of the permit variation application for operation of an intensive poultry installation at Chequerhouse Farm, Thievesdale Lane, Retford, DN22 8JA. Throughout this document, reference has been made to other application documents, where relevant, which should be read in conjunction with this document.
- 1.3 The application includes an installation activity listed under Schedule 1, Part 2, Section 6.9 Part A(1)(a)(i) of The Environmental Permitting (England and Wales) Regulations 2016 for the intensive rearing of poultry. As such, the installation is required to comply with the BAT conclusions outlined within Commission Implementing Decision (EU) 2017/302 establishing best available techniques (BAT) for the intensive rearing of poultry or pigs.

BAT Assessment

2.1 Assessment of BAT Against Commission Implementing Decision (EU) 2017/302

2.1.1 Overview

2.1.1.1 The following sections provide assessment of BAT compliance for the installation against the BAT Conclusions Document.

2.1.2 BAT 1 – Environmental Management System

2.1.2.1 An Environmental Management System (EMS) has been prepared for the operation, which has been submitted with this permit application, demonstrating compliance with BAT 1.

2.1.3 BAT 2 – Good Housekeeping

2.1.3.1 All staff will be appropriately trained and competent in accordance with relevant animal welfare, biosecurity and environmental management requirements. The training regime is detailed within the supporting EMS and will include awareness of potential emission sources (including ammonia, odour and runoff), pollution prevention measures, and emergency response procedures.

2.1.3.2 An Emergency Plan will be implemented by site management at the site, which will address any potential incidents, including those relating to fuel spills, drainage issues and fire.

2.1.3.3 The installation is subject to a programme of routine inspection, maintenance and repair which will include daily visual checks of structures, drainage systems and storage areas. Any defects identified will be addressed promptly to minimise the risk of associated emissions. This will be supplemented by more detailed annual maintenance checks of structures and equipment covering the following aspects:

- Building structures and yards. Includes structural integrity, water system, electrical systems (including ventilation and fail-safes), roofs, drainage systems, gutters and downpipes;
- Generator(s);
- LPG tanks;
- Biomass boilers;
- Underground tanks;
- Chemical stores, including bunding and security arrangements;
- Feed storage silos, bins and tanks including bund and collision protection integrity as applicable;
- Feed delivery systems;
- Field boundaries; and,
- Watering troughs and drinkers.

2.1.3.4 The site layout is detailed within the drawings appended to this document and has been designed to minimise transport distances and handling of materials, thereby reducing the potential for emissions to air and accidental releases.

2.1.3.5 Drainage infrastructure has been designed to ensure that clean and dirty water are appropriately segregated with relevant containment measures in place to prevent contamination of surface water and groundwater. During house cleanout, house washdown water will be collected in sealed, underground tanks and subsequently exported from site in a sealed tanker lorry by licensed contractor. A diverter valve will be used to divert all yard water drainage to sealed tanks during house cleanout operations. Following completion of cleanout, this will be flushed through with water and then clean surface water drainage directed back to the attenuation reservoir.

2.1.2 Broiler mortalities which arise during the crop cycle will be removed from houses and held in a small lockable cold store prior to collection by licensed contractor under the DEFRA fallen stock scheme. This ensures potential emissions are minimised.

2.1.1 BAT 3 – Nutritional Management (Ammonia)

- 2.1.1.1 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.
- 2.1.1.2 Animals are fed in line with a feed plan tailored to their growth stage. Phase feeding will be undertaken with the nutrient composition adjusted over time to match the animals' changing nutritional needs. This approach will reduce excess nitrogen intake.
- 2.1.1.3 Protein content of the feed will be reduced throughout the growing period. Broilers will be fed a minimum of three diets during the growing cycle.
- 2.1.1.4 A health plan will be used, with specialist veterinary input as necessary.
- 2.1.1.5 Feed formulation will be undertaken in accordance with recognised industry standards. Feed will be supplied by a supplier who has nutrition specialist(s) at the place of production.
- 2.1.1.6 Feeding systems will be managed inline with the preventative maintenance and inspection regime in order to minimise feed being wasted. This reduces the potential for nutrient losses to the environment.

2.1.2 BAT 4 – Nutritional Management (Phosphorus)

- 2.1.2.1 In order to reduce the total phosphorus excreted, while meeting the nutritional needs of the animals, BAT is to use a diet formulation and a nutritional strategy.
- 2.1.2.2 Nutritional management measures as set out under BAT 3, above, will also apply to phosphorus management.
- 2.1.2.3 Phosphorous levels in the diet will be reduced as the growing cycle progresses.

- 2.1.2.4 These measures will minimise phosphorus losses at source and reduce the potential for impacts to surrounding areas.

2.1.3 BAT 5 – Efficient Use of Water

- 2.1.3.1 Site management will keep an ongoing record of water usage within the site diary forms.
- 2.1.3.2 Water infrastructure will be inspected as part of the site maintenance programme outlined within the EMS. Any leaks or defects will be identified and repaired as soon as practicable to minimise water loss.
- 2.1.3.3 Water will be delivered to the poultry via nipple drinking systems.
- 2.1.3.4 Rainwater will be collected within an attenuation reservoir, treated and re-used on the farm.
- 2.1.3.5 Between each cycle, poultry houses will be power washed.

2.1.4 BAT 6 and 7 – Emissions from Wastewater

- 2.1.4.1 Foul and clean water drainage will be kept separate.
- 2.1.4.2 During house cleanout, house washdown water will be collected in a sealed, underground tank and subsequently exported from site in a sealed tanker lorry by licensed contractor. A diverter valve will be used to divert all yard water drainage to sealed tanks during house cleanout operations. Following completion of cleanout, this will be flushed through with water and then clean surface water drainage directed back to the attenuation reservoir. Rainwater will be collected within an attenuation reservoir, treated and re-used on the farm.
- 2.1.4.3 The use of water for cleaning will be minimised as far as hygiene requirements allow. The operator will review water use every four years. The audit will include a breakdown of water consumption by source. Details of the water use audit will be provided to the

EA. A programme of continuous improvement will ensure opportunities to save water or exploit alternative sources are under constant review.

2.1.5 BAT 8 – Energy Efficiency

2.1.5.1 The poultry houses will be highly insulated with a high level of environmental control which will maximise energy conservation, whilst at the same time providing improved welfare conditions for livestock. All new equipment will be specified with energy efficiency as a priority.

2.1.5.2 All mobile and stationary plant and equipment utilised at the site will be subject to regular maintenance to optimise operating efficiency. A record of fuel consumption will be maintained and will be used to identify any abnormal fuel consumption that requires investigation. All staff will receive appropriate training for operations at the site which will include maintenance procedures and basic housekeeping (e.g. switching lights and equipment off when not in use).

2.1.5.3 Energy efficient lighting will be used throughout the farm.

2.1.5.4 The operator will review and record opportunities to improve energy efficiency at least every four years and take any appropriate action as deemed necessary by the review.

2.1.6 BAT 9 – Noise Emissions – Noise Management Plan

2.1.6.1 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 (NMP), as part of the environmental management system (BAT 1). BAT 9 is only applicable to cases where a noise nuisance at sensitive receptors is expected and/or has been substantiated.

2.1.6.2 A NMP has been prepared for the site due to the proximity of residential dwellings within 400m of the site boundary.

2.1.7 BAT 10 – Noise Emissions – Reducing Noise Emissions

2.1.7.1 Reference should be made to the NMP for full list of noise mitigation measures to be used on the farm.

2.1.8 BAT 11 – Dust Emissions

2.1.8.1 A Dust and Bioaerosols Management Plan has been prepared, since there are sensitive receptors located within 100m of the permit boundary. Reference should be made to the DBMP for full list of dust control measures that will be implemented, ensuring compliance with BAT.

2.1.9 BAT 12 – Odour Emissions – Odour Management Plan

2.1.9.1 BAT is to set up, implement and regularly review an Odour Management Plan (OMP) as part of the site Environmental Management System.

2.1.9.2 An OMP is in place for the installation and includes measures for identifying and managing potential odour impacts, appropriate operational controls, and procedures for responding to any odour complaints or incidents.

2.1.9.3 The plan will be reviewed and updated as necessary to ensure continued effectiveness and to reflect any changes in site operations or environmental conditions.

2.1.10 BAT 13 – Odour Emissions Reducing Odour Emissions

2.1.10.1 Reference should be made to the OMP for full list of odour mitigation measures to be used on the farm.

2.1.11 BAT 14 and 15 – Emissions from Solid Manure Storage

2.1.11.1 No manure will be stored on site. This will be removed from site during each cleanout cycle, sent to a power station for energy recovery.

2.1.12 BAT 19 - On Farm Processing of Manure

- 2.1.12.1 BAT 19 is not applicable to the onsite operations. No processing of manure will take place on-site.

2.1.13 BAT 20 – Manure Landspreading

- 2.1.13.1 No manure will be spread. This will be removed from site during each cleanout cycle, sent to a power station for energy recovery.

2.1.14 BAT 22 - Manure Landspreading

- 2.1.14.1 No manure will be spread. This will be removed from site during each cleanout cycle, sent to a power station for energy recovery.

2.1.15 BAT 23 – Emissions from the Whole Production Process

- 2.1.15.1 In order to reduce ammonia emissions from the whole production process, BAT is to estimate or calculate the reduction of ammonia emissions resulting from the implementation of BAT at the installation.
- 2.1.15.2 The installation incorporates a range of BAT measures across housing and manure management as set out within this document.
- 2.1.15.3 The use of nutritional management measures, as defined in response to BAT 3, will reduce nitrogen excretion and associated ammonia emissions.

2.1.16 BAT 24 – Monitoring of Emissions and Process Parameters – Monitoring of Nitrogen and Total Phosphorus

- 2.1.16.1 The total nitrogen and phosphorus excreted from the installation will be estimated using a mass balance approach which will be based on feed intake, nutrient composition of the formulated diet and animal performance.

2.1.16.2 Feed usage and composition will be recorded as part of routine farm records, enabling annual estimation of nutrient excretion.

2.1.16.3 These measures will allow the operator to monitor nutrient outputs in accordance with BAT requirements.

2.1.17 BAT 25 - Monitoring of Emissions and Process Parameters – Monitoring of Emissions

2.1.17.1 In order to comply with BAT 25, emissions to air will be estimated using emission factors once a year for broilers houses on site.

2.1.18 BAT 26 – Periodic Odour Monitoring

2.1.18.1 A site-specific OMP is in place for the site and has been submitted in support of the variation application.

2.1.19 BAT 27 – Periodic Dust Monitoring

2.1.19.1 In order to comply with BAT 27, emissions to air will be estimated using emission factors once a year.

2.1.20 BAT 29 - Monitoring of Emissions and Process Parameters

2.1.20.1 BAT is to monitor the key process parameters at least annually.

2.1.20.2 Water consumption will be monitored using site water meters with usage recorded as part of routine site management records.

2.1.20.3 Electricity consumption will be monitored via utility meter readings and invoices.

2.1.20.4 Fuel consumption will be recorded using delivery invoices and usage records, where possible.

- 2.1.20.5 Records will be maintained for livestock numbers, including movements onto and off the installation, including mortalities.
- 2.1.20.6 Feed consumption will be recorded through supplier invoices and farm management records.
- 2.1.20.7 Manure production will be recorded through operational records and estimated using standard farm mass balance approaches where required.

2.1.21 BAT 32 - Ammonia emissions from Broiler Houses

- 2.1.21.1 In order to reduce ammonia emissions to air from each poultry house, BAT is to use one or a combination of the techniques set out in the BAT conclusions.
- 2.1.21.2 The site will include a solid floor system, with wood chips used for bedding. Forced ventilation will be used, delivered primarily by the use of high velocity roof exhaust fans, supplemented by gable end ventilation for heat extraction during periods of hot weather.
- 2.1.21.3 If the litter is inappropriately managed, this can be a potentially significant source of ammonia within intensive livestock units, especially if insufficient or poor quality litter is used or if the litter is wet.
- 2.1.21.4 Nipple drinking systems will be used to minimise spillage – drinking systems will be visually inspected on a daily basis by the site manager to check for any spillage or overflows;
- 2.1.21.5 Housing will be designed to minimise risk of water ingress to poultry houses.
- 2.1.21.6 No manure will be stored on site. This will be removed from site during each cleanout cycle, sent to a power station for energy recovery.