

Cononsyth Free Range Layer Unit Cononsyth Farms Limited New Permit Application Number PPC/A/5001100

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1 NON-TECHNICAL SUMMARY OF DETERMINATION

PPC requires that where the draft determination of an application or a SEPA-Initiated variation is to be subject to public consultation (this is usually referred to as PPD consultation) the decision document will contain a non-technical summary of the determination. There is no need to have a non-technical summary if the application is not subject to PPD.

Will the draft determination be subject to public consultation? Yes

This application by Cononsyth Farms Limited is for a new free range egg production farm approximately 10km northwest of Arbroath and housing a total of 64,000 places for free range laying hens. The site is located at Ordnance Survey grid reference NO 5679 4702. The permit application is made under Schedule 1 Section 6.9 Part A paragraph (a) of the Pollution Prevention and Control (Scotland) Regulations 2012.

The sheds are designed to minimise ammonia emissions; they are insulated to retain heat; concrete floored with a damp proof membrane; and with walls and roofs insulated to reduce the risk of condensation. Temperature and humidity are monitored continuously and adjusted to achieve optimal conditions for flock welfare and to maintain low moisture content in the litter. Litter will be monitored to ensure that it is 'friable and loose'.

Ventilation is by means of roof-mounted and west gable fan inlets with gable-end extraction and passive exhaust through the ground-level bird pop-holes. The living system is called 'aviary' and comprises nest boxes and pop-holes in the base of the houses so that the birds may roam. Manure is removed on manure belts to trailers two/three times per week and removed in covered trailers to a manure store included as a "satellite" to the main Permitting Installation. Manure and litter will be spread to land for agricultural benefit. There are permit conditions to ensure that a Tree Belt Plan is produced and followed to plant trees to act as shelter belt for the ammonia emissions thereby reducing their impact on nearby Designated Sites and the surrounding environment.

Nipple drinkers are used to reduce wastage of water and to maintain dry litter. Water consumption is monitored and recorded daily.

Birds will be on site for an average of 65 weeks. At the end of each cycle, the housing units will be de-stocked of birds and all soiled litter and manure completely removed manually into covered trailers and taken to the manure store before being spread on land out with the installation boundary. The buildings are then washed, sterilised and recommissioned ready for the next flock. The washwater is collected in a sealed below ground tank prior to being spread on the land out with the installation boundary. No food mixing occurs on site. The premixed feed is delivered directly to site as required and it is adjusted throughout the cycle to provided optimal nutrient uptake to minimise loss *via* manure.

Collectively, these measures are intended to reduce the production and release of ammonia, odours and dust from the sheds, to prevent liquid washings escaping to the environment, and to manage the waste produced on-site. All aspects of building design and operation will be supported by management systems that aim to minimise the impact of the Permitted activities on emissions to air, water and land.

The application submitted complies with both PPC requirements and the Standard Farming Installation Rules, for example: the adoption of BAT (Best Available Techniques (commonly known as BAT) Reference Document (abbreviated to BREF) for Intensive Livestock Installations) in building design and construction; and the introduction of procedures and systems for the control of odour and noise as required by the legislation. Please see Section 5 for more information on BAT at this site.

The installation of a Sustainable Drainage System to treat surface and yard runoff *via* new swales adhere to the guidelines the CREW SuDS Guide, considered BAT for IA permitted installations.

A Baseline Report has been submitted with consideration of the whole permitted farm and has been assessed as satisfactory to meet PPC Schedule 7 Part 1 Regulation 2(4).

Under the Habitats Regulations (Conservation (Natural Habitats, &c.) Regulations 1994) and the Nature Conservation (Scotland) Act 2004 there are duties placed on SEPA for the protection of designated sites. Cononsyth Farm is within 10km of 10 designated sites (please see Section 4.5 of this Main Decision Document). During the pre-application process SEPA liaised with the applicant's consultant and COGEO who undertook the Air Quality Impact Assessment (AQIA) for the proposed free range layer unit. Initial assessment of the AQIA found revisions were required (including different Met data, corrected emission factors, etc.) and the final AQIA was assessed by SEPA as acceptable with no predicted breaches of critical loads and levels at nearby Designated Sites nor statutory limits of PM₁₀ (dust).

Determination is therefore to issue the Permit PPC/A/5001100 based on the application (and subsequent revisions) submitted.

Glossary of terms

PPC	Pollution Prevention and Control (Scotland) Regulations 2012
BAT	Best Available Techniques
CO	Coordinating Officer
IA	Intensive Agriculture
ELV	Emission Limit Value
SCAIL	Simple Calculation of Atmospheric Impact Limits
BREF	Best Available Techniques Reference Document
SNH	Scottish Natural Heritage (now known as NatureScot)
SSSI	Site of Special Scientific Interest
SAC	Special Area of Conservation
SPA	Special Protected Area
EAL	Environmental Assessment Level
PPD	Public Participation Directive
PM ₁₀	Concentration of particles that are less than or equal to 10 µm in diameter
PEPFAA Code	Prevention of Environmental Pollution from Agricultural Activity
APHA	Animal and Plant Health Agency
DAA	Directly Associated Activity
GBR 18	General Binding Rule 18 of the Water Environment (Controlled Activities) (Scotland) Regulations 2011
IED	Industrial Emissions Directive

SuDS	Sustainable Drainage System
CREW Rural SuDS Guide	CREW Rural Suds Design and Build Guide' means the Duffy, A. Moir, S. Berwick, N. Shabashow, J. D'Arcy, B. Wade R. (2016). Rural Sustainable Drainage Systems: A Practical Design and Build Guide for Scotland's Farmers and Landowners, CRW2015/2.2, available online at www.crew.ac.uk/publications

2 EXTERNAL CONSULTATION AND SEPA'S RESPONSE

Is Public Consultation Required - Yes

Advertisements Check:	Date	Compliance with advertising requirements
Dundee Courier	31/12/2021	Yes
Edinburgh Gazette	31/12/2021	Yes

No. of responses received: 10 (including those received after the 28-day statutory consideration period).

Summary of responses and how they were taken into account during the determination:

1. Consideration of other potential sites for the IA Poultry farm
2. Flooding
3. Consideration of climate change (future proofing)
4. Impact on nearby private water supplies
5. Offsite farm pond
6. SuDS
7. Noise
8. Dry stone dykes
9. Biomass boiler feedstock
10. Pest control – impact of pests on nearby properties and impact of pest control chemicals
11. AQIA - at Planning, methodology, fan dimensions, met data,
12. PM_{2.5}
13. Emissions monitoring
14. Tree shelter belt
15. Clogging of scratch area
16. Water quality at Bathing Water, Lunan Water, Denton Burn
17. Avian flu
18. SEPA inspections
19. External lighting
20. Choice of independent lab for sample analysis
21. Odour
22. Construction phase
23. Sector-wide non PPC considerations

All points raised in the 10 public representations received in response to the advertising of the application were considered and each addressed specifically and individually. The points raised did not affect the determination of this application as they fell into one or more of the following criteria:

1. Comments relate to aspects outwith the regulation of the Permitted Installation and Activity under the Pollution Prevention & Control (Scotland) Regulations 2012 (e.g. spreading of manure, activities outside of the Site Boundary, flooding, etc.);

2. Comments relate to activities regulated by another regulatory body (e.g. the local authority, Scottish Government, etc.);
3. Comments relate to the wider sector and industry and not to the application for a permit to carry out an Activity under the Pollution Prevention & Control (Scotland) Regulations 2012;
4. Comments raise points regarding the carrying out of the PPC Activity and/or the regulation of the Permitting Installation but the application and supporting documentation demonstrate that Best Available Techniques shall be met.

All public representations and responses have been saved to the Public Register and are not included as specific Associated Documents to this Decision Document as they did not alter the determination of this application.

Is PPC Statutory Consultation Required –

Food Standards Scotland: 28/02/2022 Response received: Based on the application and provided that the applicant complies with the relevant SEPA Guidance and all other relevant PPC Guidance Notes and Regulations, Food Standards Scotland considers it unlikely that there will be any unacceptable effects on the human food chain from the emissions from this installation.”

Scottish Government Nitrate Vulnerable Zone Rules via Rural Payments and Inspectorate Division: On finding the initial roaming area too small to comply with the NVZ Rules 31/01/2022 Response Received the Scottish Government confirmed “that the extended boundary will allow the business to comply with NVZ 170 kg/N/ha limit.”

Angus Council: No response received.

Tayside and Grampian NatureScot (formerly Scottish Natural Heritage) (PPC Regs consultation): 21/01/2022 Response received: “We note your advice that no exceedance of critical loads/levels for ammonia, nitrogen or acidity deposition on any designated sites within the vicinity of the proposal is predicted. Further, you conclude that there will be ‘no significant impacts due to air pollution at any relevant protected habitat site’. We therefore have no comments to make on the application.”

Health and Safety Executive: No response received.

Discretionary Consultation - No

Enhanced SEPA public consultation - No

‘Off-site’ Consultation - No

Transboundary Consultation - No

Public Participation Consultation - Yes

STATEMENT ON THE PUBLIC PARTICIPATION PROCESS

The Pollution Prevention and Control (Public Participation) (Scotland) Regulations 2005 requires that SEPA’s draft determination of this application be placed on SEPA’s website and public register and be subject to 28 days’ public consultation. The dates between which this consultation took place, the number of representations received and SEPA’s response to these are outlined below.

Date SEPA notified applicant of draft determination

14/04/2022

Date draft determination placed on SEPA’s Website

TBC

Details of any other 'appropriate means' used to advertise the draft.	N/A
Date public consultation on draft permit opened	TBC
Date public consultation on draft permit consultation closed	TBC
Number of representations received to the consultation	TBC
Date final determination placed on the SEPA's Website	TBC

3 ADMINISTRATIVE DETERMINATIONS

Determination of the Schedule 1 activity

As detailed in the application and supporting documentation.

Determination of the stationary technical unit to be permitted:

As detailed in the application and supporting documentation (as revised).

Determination of directly associated activities:

As detailed in the application and supporting documentation (as revised).

Determination of 'site boundary'

As detailed in the application supporting documentation (as revised).

4 INTRODUCTION AND BACKGROUND

4.1 Historical Background to the activity and variation

This application by Cononsyth Farms Limited is for a new free range egg production farm approximately 10km northwest of Arbroath, Angus housing a total of 64,000 places for laying hens. The site was historically fields farmed for arable and is considered greenfield. This application is for 2 sheds (themselves split into 2 houses) to accommodate a total of 64,000 free range layers and accompanying egg processing hall called the Central Service Area.

The applicant was required to demonstrate that all the sheds were designed having regard to the following principles outlined in the BREF and the BAT conclusions published in February 2017:

- reducing the ammonia-emitting surface;
- removing the manure frequently to an external store (e.g. with belt removal systems);
- quickly drying the manure;
- using surfaces which are smooth and easy to clean;
- lowering the indoor temperature and ventilation as much as animal welfare and/or production allow.

The proposals for new housing demonstrate that the chosen design addresses the above principles.

4.2 Description of activity

Rearing poultry intensively in an installation with more than 40,000 places is described in Part A of Section 6.9 (a) of Schedule 1 of the Regulations. Cononsyth Farms Limited proposes to have 64,000 places for free range birds for egg production.

Other Directly Associated Activities include:

- Feed delivery and storage;
- Generator and fuel storage;
- Biomass boiler and feedstock storage;
- Water storage;
- Chemical storage;
- Manure handling and storage;
- Dirty water storage;
- Storage of fallen stock prior to disposal;
- Tree shelter belt planting and management;
- Management of lightly contaminated surface water.

4.3 Guidance/directions issued to SEPA by the Scottish Ministers under Reg.60 or 61.

None.

4.4 Identification of important and sensitive receptors

Cononsyth Free Range Layer Unit is within 10km of the following 10 NatureScot (formerly Scottish Natural Heritage) designated sites:

Table 4.1 Designated sites within 10km of Cononsyth Farm

Site Name	Designation	Approx. distance from Cononsyth (km)
Rescobie and Balgavies Lochs	SSSI	4.52
Dilty Moss	SSSI	5.97
Turin Hill	SSSI	7.52
River South Esk	SAC	9.25
Elliot Links	SSSI	9.30
Rossie Moor	SSSI	9.50
Restenneth Moss	SSSI	8.23
Whitehouse Den	SSSI	7.40
Forest Muir	SSSI	8.86
Gagie Marsh	SSSI	9.32

Scotland is a Drinking Water Protection Area but groundwater will not be impacted by the installation as BAT in the form of management, housing and surface water collection and treatment ensures that emissions will be prevented.

The site is located in a rural area with outspread residences and other nearby agricultural operations. There are no human health sensitive receptors identified within 250 metres as part of the required screening of PM₁₀ emissions from this site.

5 KEY ENVIRONMENTAL ISSUES

5.1 Summary of significant environmental impacts

SEPA have identified a number of potential environmental impacts which need to be assessed. These are identified as follows:

Emissions to Air	Ammonia, dust (PM ₁₀) and odour
Emissions to Land	Waste, faecal material and nutrient inputs to land
Emissions to Water	Surface water discharge to surface water and indirect to groundwater
Other Emissions	Noise
Associated risks	Fuel and chemical storage

SEPA aims to control these through the conditions contained in the permit and by the requirement on the operator to comply with BAT as indicated in the SFIR.

During the pre-application process SEPA liaised with the applicant's consultant and COGEO who undertook the Air Quality Impact Assessment (AQIA) for the proposed free range layer unit. Initial assessment of the AQIA found revisions were required (including different Met data, corrected emission factors, etc.) and the final AQIA was assessed by SEPA as acceptable with no predicted breaches of critical loads and levels at nearby Designated Sites nor statutory limits of PM₁₀ (dust).

5.2 Point Sources to Air

SEPA has identified that the major environmental impacts from the farm will be dust and ammonia.

Ammonia

Ammonia can be carried on the air and deposited in lochs and ponds causing eutrophication. It is assessed that the main point source of ammonia at Cononsyth Poultry Farm will be the housing and ventilation. In order to quantify the amount of ammonia which will be emitted, SEPA use DEFRA-approved emission factors. The emission factors are specific to each proposed housing system. Some housing systems are more efficient than others and will result in a lower emission factor. The new housing meets the descriptor in BAT Conclusion 31 (b4) "manure belts (in case of aviary)".

Under the Habitats Regulations (Conservation (Natural Habitats, &c.) Regulations 1994) and the Nature Conservation (Scotland) Act 2004 there are duties placed on SEPA for the protection of designated sites. Cononsyth Farm is within 10km of 10 designated sites (please see Section 4.5 of this Main Decision Document).

In order to assess the potential impact of ammonia from Intensive Agricultural Installations the applicant is required to supply calculations to indicate the amount of ammonia released from the chicken unit. Using the emission factor for free range layers of 0.108kg/NH₃/bird place/year (ammonia produced by an average sized bird) the ammonia released from the installation at Cononsyth would be on average 6912 kg/yr (based on a population of 64,000 birds).

SEPA's default position is that the estimated emission factor for time spent on the ranging area is 0.22 kg NH₃ per bird-place per year¹. Ranging emissions should be factored by 20%, to represent the proportion of emission arising from droppings on the range. Housing emissions (0.08 kg NH₃ per bird-place per year for an aviary system) should be factored by 80%, to represent the proportion

¹ Inventory of Ammonia Emissions from UK Agriculture 2019

of emission derived from indoors. Ranging areas should be modelled as an area source equivalent to the whole ranging area with an average emission rate across the whole range.

Modelling of the range area explicitly was not proposed for this application and SEPA accepted the use of a combined emission factor (0.108 kg NH₃ per bird-place per year) modelled as a point source. On balance, taking into consideration the distance from the source to the nearest receptor and the process contribution being a low percentage of the critical load, the risk of significant adverse effect was low and changing the parameters of the model to observe this new requirement was unlikely to change the outcome.

The final AQIA was assessed by SEPA as acceptable with no predicted breaches of critical loads and levels at nearby Designated Sites.

The permit will include conditions to ensure that a Tree Belt Plan is produced and followed to plant trees to act as a shelter belt for the ammonia emissions thereby reducing their impact on nearby Designated Sites and the surrounding environment. The main purpose of the tree planting is to augment the roaming area. The additional reduction that this shelter belt will afford once it reaches maturity was not factored into the air quality modelling.

An existing manure store, located 500m to the east of the poultry houses is presently used to store manure bought in from off site. It is not covered and is not considered BAT. SEPA understands that once planning permission is granted for the hen sheds, the applicant intends to replace this with a purpose-built store which will be a roofed building with a waterproof base, capable of collecting and storing runoff. The new store will need to be sized to accommodate manure produced throughout the NVZ closed period and 22 weeks storage of slurry to comply with GBR32a of the Water Environment (Controlled Activities) (Scotland) Amendment Regulations 2021. The existing store is already included in background ammonia levels and when replaced with an enclosed structure will provide an overall reduction in ammonia and reduce the reliance on material being delivered by road. SEPA have required that the operator stops using the existing store and replaces it with a compliant structure as an upgrade requirement to be met within 12 months of the date of the operation *i.e.* first stocking.

Dust (PM₁₀)

Dust from poultry houses mainly originates from feathers, skin particles and used litter and to a lesser extent from feed and bedding.

PM₁₀ dust particles (particulate matter 10 micrometres or less in diameter) are subject to statutory air quality standards. These standards have been specified to reduce health effects and environmental risks to an acceptable level. Air quality limit values and averaging periods are set out in the Air Quality Standards (Scotland) Regulations 2010. In addition to the air quality standards, Scotland has air quality objectives which are set out in the Air Quality (Scotland) Regulations 2000 (as amended).

Where sensitive receptors are located within 250m of a poultry unit, SEPA requests that the Applicant screens the emission of particulate matter to establish whether the emission will cause any air quality standards to be breached. Coge identified 26 human health sensitive receptors within 1km of the site as part of the AQIA but there are none within 250m and therefore no properties fall into the screening requirement for PPC. The Air Quality Impact Assessment has shown that there are no predicted exceedances of the air quality objectives. As SEPA has assessed the risk to human health is seen as acceptable.

Ammonia and dust will be minimised by carefully managing air exchange to control humidity levels within the sheds and maintaining the dry matter content of the litter at an optimal value of between 60-65%.

Smoke from the biomass boiler, fed exclusively with wood chips for homogenous incineration, is regulated by this permit. The capacity of the boiler is less than 1MW therefore the Medium Combustion Plant Directive does not apply (please see section 6). The permit will require visual inspection to meet Ringelmann Shade 1 during start up and no visible smoke during operation.

Diesel Generator

As it is a requirement of the animal welfare regulations that the birds have adequate heating and ventilation at all times. The site shall be powered primarily from a nearby purpose-built wind turbine and will augment power from the mains grid electricity when required. There is however a diesel generator used as a back-up power unit at Cononsyth to provide power in the event of a mains outage. SEPA are aware that diesel generators can give rise to dense fume especially at start up or if the generator is poorly maintained and would expect the operator to use BAT particularly with regard to servicing and maintenance to minimise visible emissions and particulates from the exhaust.

5.3 Point Source Emissions to Surface Water and Sewer

There are no public sewers within the vicinity of Cononsyth and therefore there will be no discharges to the sewer.

A septic tank will be installed to collect all domestic waste water from the welfare amenities and discharge to a full soakaway north of the poultry sheds. This is to be authorised under The Water Environment (Controlled Activities) (Scotland) Regulations 2011. The foul effluent system is not considered part of the Permitted Installation.

Surface water run-off from the poultry shed roofs, scratch areas and low-contamination yards will be directed to two swales (please see CF Drg 2 Design of Swales and DCF Drg 2 Design of Swales 2 in the application supporting documentation), for which the relevant capacity calculations have demonstrated adequate storage for this purpose. The installation of a Sustainable Drainage System to treat surface and yard runoff *via* new swales adhere to the guidelines the CREW SuDS Guide, considered BAT for IA permitted installations

Drainage will be conveyed to the swales with solid pipes. The applicant will install 2 linear swales operating on a first flush separator principle (not in series). The first swale will treat the 'first flush' containing the majority of dust and nutrients having a longer period of contact with the grass sward and provide better treatment. The first flush principle is acceptable provided the swales are well maintained - much of the nutrient loading, particularly phosphorous, will be in the first swale and this may require a greater level of maintenance.

The application stated that there would be a 0.5m difference between the water table and the base of the swales. SEPA expressed concern that the swales may extend below the water table (either seasonally or permanently) and will not operate as designed and instead create a preferential pathway for contamination to enter groundwater directly. SEPA requested a hydrological review which confirmed that the water table is 0.5m below the base of the swales. SEPA therefore recommended the use of any excess material from the excavations to be used as a form of liner. The final design incorporates a sub-soil liner beneath the topsoil. The nature of the sub soil with a high clay content will attenuate downward drainage and slow down infiltration thereby increasing organics and nutrient absorption. The 2nd swale will over flow via a weir, to the farm pond and only in exceptional rainfall, the flow will overtop the weir and flow to the Brothick Burn.

A sheet swale is to be installed to collect and treat run-off from the access road which will include that of wheel-spray. The nature of application of wheel spray means that limited amounts shall reach the swale but it is designed to treat lightly contaminated water.

5.4 Point Source Emissions to Groundwater

There shall be no direct point source emissions to groundwater as a consequence of this application. The applicant has demonstrated that the swales are designed in line with SEPA advice and are sufficiently sized. If maintained properly, they will provide sufficient treatment of all lightly contaminated run off so that this is not considered to be a point source discharge to groundwater.

SEPA has assessed as satisfactory the Baseline Report submitted with the application subsequent to further clarifications. This report evaluates past potential contamination and future pollution risks to both soil and groundwater (please see Section 5.19 of this Decision Document).

5.5 Fugitive Emissions to Air

There are a number of potential fugitive emissions to air. These include the release of dust and ammonia during cleaning or opening of the poultry sheds for fallen stock removal and also from the birds themselves. Whilst SEPA accepts that some fugitive releases are unavoidable e.g. unplanned releases due to an unforeseen incident; others such as poor cleaning out practices can be controlled through the relevant management techniques. SEPA views fugitive releases to air from these activities as an indication of process or maintenance issues and would require any defects to be reported and rectified as soon as possible.

Although not specifically covered by conditions within the permit, maintenance issues are covered by the PPC Regulations under Regulation 22 which requires the use of “Best Available Techniques” (see definition of “techniques” within the explanatory notes attached to the draft permit). SEPA seeks to reduce these occurrences by requiring operators to record maintenance issues and demonstrate a high degree of environmental management over the activities they undertake. SEPA for its part has a number of regulatory instruments it can use to gain compliance should the operator fail to comply.

Bioaerosols

SEPA does not have any specific policies in relation to bioaerosols from IA processes, there are currently no health criteria values available for interpreting the results of bioaerosol monitoring. Routine monitoring would be required at receptors within 250m should appropriate criteria for assessment be identified.

5.6 Fugitive Emissions to Water

There are a number of potential sources which could lead to fugitive emissions to water, these include: poorly maintained surfaces and drainage systems, bird delivery and collection contaminating surface waters, lack of care during cleaning of the chicken sheds and diesel tank filling and associated bund emptying.

SEPA views fugitive releases as avoidable and can usually link these incidents to either operational error or negligence. SEPA seeks to reduce these occurrences in the permit by requiring the company to provide training to relevant staff in environmental issues and exercising a high degree of environmental management and continual maintenance of the activities they undertake.

The applicant is installing SuDS which shall have been designed to be fit-for-purpose and meeting BAT. All above ground SuDS (e.g. the swales) and ditches within the site boundary shall be fenced to prevent ingress from the roaming layers.

5.7 Emissions to Land

In the case of free-ranging hens, RPID considers that deposition on a range will be constant across the whole area. In order to ensure that an installation is BAT and that an Operator is taking all appropriate preventative measures against pollution, the applicant is required to demonstrate that

deposition on the ranging area is in accordance with the limit advised by RPID as 170kg/hectare under the Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008.

The entire ranging area will be included in the installation boundary. The application initially indicated a range area of 33.7 hectares but after deducting the footprint of buildings, for 64,000 birds, for the 170Kg/Ha/year to be met, the applicant has been required to increase the range area to at least 40 hectares.

The manure collected from the housing at least twice a week on manure belts will be stored in the manure store until it is ready to be used as organic fertilizer. Washwater is collected in below ground tanks prior to being spread on land. SEPA do not regulate this application to land under PPC, fields on which the manure will be spread are not part of the permitted installation. The spreading to land is covered by the Water Environment (Controlled Activities) (Scotland) Regulations 2011 General Binding Rule 18.

5.8 Odour

SEPA acknowledges that Odour from intensive agriculture installations can give rise to complaints and to this end requires operators to undertake odour assessments and to formulate and implement Odour Management Plans to reduce the impact on the local environment.

SEPA has identified that the potential odour issues from this intensive poultry farm are ammonia and general poultry smells, with secondary odours from the use of any chlorinated cleaning materials or disinfectants to clean the sheds. Conditions within the permit will require the company to produce an Odour Management Plan detailing how odour issues will be resolved and the applicant must have regard to the BAT contained within Section 2.8 of SEPA's Standard Farming Installation Rules which deals with odour management.

5.9 Management

Good site management is a requirement not only of the PPC Regulations but also the Food Safety Act 1990, regulated by the Food Standards Agency, and the Animal Welfare Act 2006. Agricultural installations are subject to a whole raft of regulatory controls requiring Operators to operate installations to a high standard both to ensure welfare of animals and to prevent materials entering the food chain.

Permit condition 2.1.5 requires that the permitted activity is operated in accordance with an environmental management system (EMS). The BREF requires that in order to improve the overall environmental performance, the EMS should incorporate the following key features:

- Management commitment
- Environmental policy
- Financial planning and investment
- Relevant procedures (training, record keeping, maintenance, emergency procedures)
- Checking performance (monitoring, preventative action, auditing)
- Review
- Continual improvement
- Benchmarking
- Noise Management Plan
- Odour management Plan

5.10 Raw Materials

Chemicals:

Chemicals used in poultry rearing include cleaning and disinfection chemicals, pesticides, rodenticides, herbicides, insecticides and fungicides. All of these chemicals are required to be

DEFRA-approved. Chemicals will be delivered to Cononsyth and either stored in locked chemical stores or brought on site solely for cleaning and then removed. Once on-site chemicals will be kept within bunded containers within the storage area of the poultry unit.

Agricultural Fuel Oil:

AFO (also known as red diesel) is stored within the bunded generator itself and there is no separate storage on site. The fuel storage is compliant with The Water Environment (Miscellaneous) (Scotland) Regulations 2017.

Water:

Water is sourced from the mains network and stored in overhead tanks in the Central Services Area (this is a revision to the application as submitted and was confirmed during the draft permit consultation with the Applicant's Consultant).

Feed:

Feed will be supplied to site, pre-mixed, into 4 fully enclosed silos each fitted with cyclone particle containment and mitigation. Feed will then be transported into the feed chain systems within the units by augers. Any feed spillages will be cleared up immediately to prevent any potential contamination of ground water or watercourses and to deter pests. Rations are formulated by poultry nutritionists and the company veterinary surgeon. Feed specifications are created to minimise the amount of nitrogen and phosphorous excreted by the birds over the flock cycle by optimising crude protein output and feed utilisation. A nutrition plan will be available on request. SEPA is satisfied that this meets the requirements of SFIR and BAT.

Litter:

Up to 30 tonnes of wood shavings and chips will be used as bedding litter at the beginning each cycle and no other shall be stored on site.

5.11 Raw Materials Selection

Records are kept to comply with Farm Assurance Schemes with regard to feed type and quantity. The standard permit condition requiring the formal assessment of resource utilisation on site will allow the operator to identify where any efficiencies can be made.

5.12 Waste Minimisation Requirements

As a commercial operation, SEPA believes it is in the interest of both the company and the environment to minimise waste on the site, as a result SEPA encourages all companies applying for PPC Part A permits to examine their Raw Materials usage and seek ways to reduce their impact on the environment. To this end, SEPA has included permit conditions requiring the operator to minimise waste and where possible develop and implement recycling or recovery strategies.

Records will be kept on site of all waste streams and the source, quantity and disposal routes taken. This data will be reviewed every 4 years in the resource efficiency report required in the permit.

5.13 Water Use

Water use within the food production sector is primarily an animal welfare issue as the operator of the installation is required under other legislation to provide an adequate supply of clean water for both the welfare of the birds and to undertake adequate cleaning of vehicles. It is up to the operator to demonstrate the use of BAT to minimise water usage but SEPA does directly regulate water use through permit conditions requiring the operator to minimise water consumption and explore options for minimisation.

The greatest volume of water consumed is drinking water for the birds. Fresh water will be delivered to poultry *via* nipple line drinkers with drip collection cups to prevent spillages (as outlined in the SFIR and BAT standards). The drinking equipment will be inspected daily to minimise water

leakages. Water consumption will be monitored and recorded daily. Water pressure on the feed system is set to minimise the spill risk and the water is taken from the mains supply.

5.14 Waste Handling, Waste Recovery or Disposal

An underground wastewater storage tank will be used to collect contaminated water from the shed cleaning process. The tank must be inspected routinely to ensure its integrity.

Foot washes are located at various locations around the site and spent disinfectant is emptied into the underground wastewater tanks. Where a disinfectant or effluent from cleaning may contain list I or II substances, washwater must be exported from site and disposed of at a suitably licenced facility. When a disinfectant does not contain list I or II substances, washwater can be spread to land in accordance with GBR18.

The application's supporting information states that the washwater tanks will contain biocides such as Virex, Viroguard, formaldehyde, Aqua 50, Microquat and pesticides such as Glyphos, Ficam W, Mitex and Elector. Those chemicals containing Specific Pollutants (substances that may have a harmful effect on biological quality and which have been identified by UKTAG as being discharged to the water environment in significant quantities in the UK) and Priority Substances as listed in the Water Framework Directive (such as formaldehyde and glyphosphate) will be collected and disposed as waste at an appropriate facility.

Empty containers (e.g. disinfectant, cleaning products, etc.) will where possible be returned to the supplier. If that is not possible they will be thoroughly rinsed (to wash water tank) and flattened prior to collection and disposal by a licensed contractor.

Mortalities are stored in a freezer in the Central Service Area for collection as required by registered contractors under the fallen stock scheme. All disposal of carcasses will be undertaken in accordance with the Animal By-Products (Scotland) Regulations 2003.

The volume of other wastes stored on the site is minimal and all will be considered in the relevant section of the resource efficiency assessment required under the standard permit condition. The onus of Duty of Care shall apply to all waste management at the installation.

Soiled litter will be removed from the houses *via* conveyors into trailers 2-3 times *per* week and taken to a the manure store where it is stored prior to being spread onto land.

5.15 Energy

The poultry sheds at the farm have a computer-controlled heating system in order to maintain temperature within the housing. This is directly linked to the ventilation system to prevent over-heating and lack of free ventilation. SEPA recognises that energy usage is dependent on a number of factors outwith the control of the operator who has to maintain the welfare of the birds in extremes of weather.

A permit condition requiring the formal systematic assessment of Energy Consumption on site will require the operator to identify where efficiencies can be made.

In 2012 a wind turbine was installed at the company's Mains of Cononsyth site capable of generating 330kW of electricity and to which Cononsyth operations shall be connected. As is common with intensive agriculture farms of this type, photovoltaic cells (solar panels) are to be installed on the roofs of the sheds to provide some limited power to the activity.

The site shall be powered primarily from this nearby purpose-built wind turbine and will augment power from the mains grid electricity when required. There is also a diesel generator used as a back-up power unit at Cononsyth to provide power in the event of a mains outage.

5.16 Accidents and their Consequences

The Pollution Prevention and Control (Scotland) Regulations 2012 specifically preclude SEPA from adding conditions to a Permit regarding the Health and Safety of Staff or workers on-site; however should an accident or incident occur that is likely to pose a risk to the environment or harm to human health in the wider community then SEPA would require, under the conditions of the permit, that not only must the Operators take action to limit the immediate environmental impact but where necessary implement changes to try to ensure that the event doesn't happen again.

In general, all accidents or incidents likely to cause pollution and all complaints to the site regarding nuisance emissions are required by the Permit to be recorded and dependent on the severity, notified to SEPA.

Incident Reporting is covered by Condition 2.11 of the Permit which requires the operator to produce an Incident Prevention and Mitigation Plan as *per* SFIR and BAT.

5.17 Noise

The predominant source of noise from poultry units is generated from the ventilation systems. Other sources of noise related to this type of activity can include vehicle movements in and around the site and the placement and removal of the birds. The latter two are considered as being unlikely to cause issues as the activities will take place for such short durations as well as being infrequent. Regular maintenance of fans will also prevent noise and the noise management plan will address any issues that should arise and will be updated as stipulated in the permit.

The Permit and SFIR recognise that noise can give rise to complaints; SEPA takes noise complaints from PPC Part A installations seriously and to this end requires the operator to undertake noise assessments and produce a Noise Management Plan to prevent or minimise the impact on the local environment.

Noise at the permitted installation is covered by Section 2.9 of the SFIR which is considered by SEPA to be BAT which the operator is required to have regard to when operating an intensive agriculture site under the PPC Regulations.

5.18 Monitoring

SEPA places a lot of emphasis on self-monitoring and record-keeping as keys to the successful running of a PPC installation. As a result the operator is required within the permit to undertake odour and noise assessments. General monitoring of the site is also covered in the Permit as a specific requirement, SEPA expects the company to use monitoring to correct deficiencies within the activity and to alleviate any nuisance.

Monitoring is required to assess operational conditions and environmental performance. Various permit conditions require the operator to monitor the level of inputs and the volume of outputs, to consider how changes made benefit the environment. The 2017 BREF introduces the following additional monitoring requirements

1. The total nitrogen and total phosphorus excreted in manure
2. Ammonia emission to air
3. Dust emissions
4. Process parameters

The European Commission during deliberations around the revised BREF, accepted the proposal from the UK technical Working Group to estimate emissions by using DEFRA approved emission factors to comply with these monitoring requirements 1-3.

Process parameters include water consumption, energy consumption, fuel consumption, the number of incoming and outgoing animals, feed consumption and manure generation. This is already well documented and will be formally required via the resource utilisation permit condition.

Monitoring requirements held within the permit also include any relating to the generator exhausts. It is stated that the standard Ringelmann 1 will be used at start up and during operation.

5.19 Closure

Standard conditions, shown as Condition 2.14 of the permit, will be appropriate for this installation including the production of a Decommissioning Plan for the installation. The operator has agreed to meet the SFIR for Decommissioning.

In order to ensure that the site can be returned to its pre-PPC Permit state SEPA have required the company detail any pre-application problems prior to permitting so that a site surrender report can be compared with the Site Condition and Baseline Reports. Conditions are contained in the permit to cover this. Surrender of the permit is by an application to SEPA who have to be satisfied that the requirements of Regulation 19 of the PPC Scotland Regulations 2012 (as amended) are complied with.

As *per* the PPC Regulations the Applicant shall need to remediate the site where required to the levels cited in the baseline report (please see Section 5.19 below for more information).

5.20 Site Condition & Baseline Reports

As *per* Regulation 48 of the PPC Regulations a baseline report was submitted with the Site Condition Report. SEPA has assessed as satisfactory the Baseline Report submitted with the application. This report evaluates past potential contamination and future pollution risks to both soil and groundwater.

A single round of surface water sampling was undertaken at three monitoring points in field drains around the proposed site. In addition, a single round of groundwater sampling was undertaken at two offsite boreholes. Concentrations were low apart from nitrate which was above the drinking water standard (DWS) of 50mg/l; this is not unexpected due to the wider area being within a NVZ.

Standard water (every 5 years) and soil (every 10 years) sampling and analyses were recommended by SEPA's Water Resources Specialist after assessment of the Baseline Report.

5.21 Consideration of BAT

It has been demonstrated by the operator and stipulated above that BAT (as *per* the BREF Document 2017) has been considered for the following:

- Surface water;
- Soil & groundwater;
- Ammonia;
- Dust;
- Odour;
- Noise;
- Raw Materials;
- Water Use;
- Waste;
- Energy;
- Incident Management;
- Site Management.

6 OTHER LEGISLATION CONSIDERED***Nature Conservation (Scotland) Act 2004 & Conservation (Natural Habitats &c.) Regulations 1994***

Is there any possibility that the proposal will have any impact on site designated under the above legislation? No

Justification: During the pre-application process SEPA liaised with the applicant's consultant and COGEO who undertook the Air Quality Impact Assessment (AQIA) for the proposed free range layer unit. Initial assessment of the AQIA found revisions were required (including different Met data, corrected emission factors, etc.) and the final AQIA was assessed by SEPA as acceptable with no predicted breaches of critical loads and levels at nearby Designated Sites.

Screening distance(s) used – 10km as per the SEPA Nature Conservation Procedure guidance NCP-P-01.

Other legislation?

Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008 - The applicant is required to demonstrate that the size of the ranging area is large enough that deposition is in accordance with the limit of 170kg/hectare.

The Water Environment (Controlled Activities) (Scotland) Regulations 2011 and Groundwater Directive (CAR) – There are no conflicts with ongoing CAR regulation of this process.

The Water Environment (Miscellaneous) Regulations 2017 take consideration of oil storage as BAT. There are no conflicts with ongoing CAR regulation of this process.

Nitrates Directive – This primarily applies to land-spreading activities outwith the process boundary. However the swale system to treat surface water drainage has potential to impact groundwater And therefore SUDS design must be in accordance with CREW Rural SuDS Guide.

Carcass disposal is regulated under The Animal By-Products Regulations and are storage is a Directly Associated Activity (DAA) in the permit.

Medium Combustion Plant Directive (MCPD) - For all proposed plant >1MW regulated as DAA on IED installations, BAT will apply and SEPA should complete Local Air Quality Management and Nature Conservation Habitat screening. If required, SEPA impose monitoring of emissions within 4 months and then every 3 years with ELVs from Process Guidance Note 1/3 or the MCPD. There are no plant >1MW on site at the time of permit issue.

7 ENVIRONMENTAL IMPACT ASSESSMENT AND COMAH

How has any relevant information obtained or conclusion arrived at pursuant to Articles 5, 6 and 7 of Council Directive 85/337/EEC on the assessment of the effects certain public and private projects on the environment been taken into account? N/A

How has any information contained within a safety report within the meaning of Regulation 7 (safety report) of the Control of Major Accident Hazards Regulations 1999 been taken into account? N/A

8 DETAILS OF PERMIT

Do you propose placing any non-standard conditions in the Permit? No

9 EMISSION LIMIT VALUES OR EQUIVALENT TECHNICAL PARAMETERS/ MEASURES

Are you are dealing with either a permit application, or a permit variation which would involve a review of existing ELVs or equivalent technical parameters? No

Emission limit values - Air

Substance: Generator exhaust (smoke)

Relevant emission benchmarks: Industry standard for visual monitoring of stacks

ELV: Ringelmann Shade 1 during start up. No visible smoke during operation.

Emission point: Generator Stack

Rationale: Included to prevent conflict with Condition 2.5.1 of the permit. The generator is only used in reserve situations when the onsite turbine and Mains Power is unavailable to ensure the health and safety of the livestock, operators and receptors and the regulatory compliance of the installation.

Substance: Biomass Boiler emissions (smoke)

Relevant emission benchmarks: Industry standard for visual monitoring of stacks

ELV: Ringelmann Shade 1 during start up. No visible smoke during operation.

Emission point: Biomass Boiler Stack

Rationale: Included to prevent conflict with Condition 2.5.1 of the permit. The biomass boiler is used to provide heat to the sheds and is fuelled by wood chips.

Substance: Ammonia

Relevant emission benchmarks: BAT AELs

ELV:. 0.02-0.13 kgNH₃/animal place/year

Emission point: Poultry housing and ranging areas.

Rationale: BAT Associated Emission Limits (AELs) are a requirement introduced in the IRPP BREF (February 2017). As part of the BREF review and 2017 publication of the BREF it was accepted by the Commission that operators could use emission factors to demonstrate compliance with the BAT Annual Emission Limits for ammonia. The emission factor used for a free range aviary system is 0.108 kgNH₃/animal place/year, which is comfortably within the required range. The operator will be required to confirm on an annual basis that the DEFRA emission factor still applies and that no changes have been made.

Substance: Total Nitrogen Excreted

Relevant emission benchmarks: BAT AELs

ELV:. 0.4-0.8 kg/animal place/year

Emission point: Manure collection belts.

Rationale: BAT Associated Emission Limits (AELs) are a requirement introduced in the IRPP BREF (February 2017). There are presently no approved emission factors but it is expected that compliance will be demonstrated via mass balance using feed information and standard manure analysis.

Substance: Total Phosphorus Excreted

Relevant emission benchmarks: BAT AELs

ELV:. 0.10-0.45 kg/animal place/year

Emission point: Manure collection belts.

Rationale: BAT Associated Emission Limits (AELs) are a requirement introduced in the IRPP BREF (February 2017). There are presently no approved emission factors but it is expected that compliance will be demonstrated via mass balance using feed information and standard manure analysis.

Emission limit values - Water

Substance: Treated surface water

Relevant emission benchmarks: The Water Environment (Controlled Activities) (Scotland) Regulations 2011

ELV: No visible pollution (see Condition 3.3.4 of the permit).

Emission point: Outfall from swale system

Rationale: Included to prevent conflict with Condition 2.5.1 of the permit and to comply with BAT (Rural Sustainable Drainage Systems – A practical design and build guide for Scotland's farmers and landowners).

10 FINAL DETERMINATION

Issue the permit PPC/A/5001100 – Based on the information available at the time of the determination SEPA is satisfied that:

- The applicant will be the person who will have control over the operation of the installation,
- The applicant will ensure that the installation is operated so as to comply with the conditions of the Permit,
- That the operator is in a position to use all appropriate preventative measures against pollution, in particular through the application of best available techniques.
- That no significant pollution should be caused.

11 REFERENCES AND GUIDANCE

Standard Farming Installation Rules (SEPA's general sector Guidance)

Nature Conservation Procedure NCP-P-01

The assessment of potential impacts on designated sites of atmospheric emissions of ammonia from PPC intensive agriculture installations NCP-P-02

Sniffer ER26: Final Report on the update of the Simple Calculation of Atmospheric Impact Limits (SCAIL) (2014)

BAT Reference Document (BREF) BAT Conclusions for the Intensive Rearing of Poultry or Pigs (2017)

Rural Sustainable Drainage Systems – A practical design and build guide for Scotland's farmers and landowners (2016)

SEPA Guidance on Consultation under PPC (IED-PG-01-04)

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