

Scottish Environment Protection Agency	Document Number	IED-DD-02
Pollution Prevention and Control (Scotland) Regulations 2012 Application for a Permit or Variation to a PPC Part A Permit Decision Document OFFICIAL	Issue Number	V2.0
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D.A. & E.M. Skinner
Lazyfold Farm,
Duncanstone, Inch,
Aberdeenshire,
AB52 6YX

Permit Application

PPC/A/5005898

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1 Non-Technical Summary of Determination

Provide a non-technical summary of the process and determination

Regulation 11 and Schedule 1 of Section 6.9 Part A of the Pollution Prevention and Control (Scotland) Regulations 2012 (The Regulations) requires that installations rearing poultry or pigs intensively with more than 40,000 places for poultry, 2,000 places for production pigs over 30kg or 750 sows, may only operate to the extent authorised by a permit.

Lazyfold Farm is a pig breeding and finishing unit based near Insch in Aberdeenshire. There has been a pig farming operating in this location since 1972. In 2021 the operator built 2 new finishing sheds which increased the overall capacity to 3101 finisher pigs and 410 sows which is more than the thresholds stipulated in the Regulations and therefore an application for a PPC Part A permit has been submitted via consultants JohnsonAllan.

The pig houses at Lazyfold are numbered 1-12. All buildings housing pigs are insulated to reduce heat losses through walls and roofs. Weaner and grower and finisher buildings constructed from 2015 onwards are fitted with high velocity roof fans and ventilation rates are controlled and optimised by a Farmex control system. The remainder are naturally ventilated (see fig 1). Heating in the farrowing house is provided by a Froling P4 60 58.5kW biomass boiler.

Gilts and sows are housed on solid floor with straw bedding. Manure is scraped out at the end of each cycle. Farrowers/weaners/growers/finishers are housed on fully slatted floors (see fig 1) with shallow underslat stores (less than 800 m). Slurry flows by gravity to a reception pit from where it is pumped into two slurry tanks.

Fig 1

House No	Pig Type	Slurry System	Ventilation
1	Weaners	Fully Slatted Floor, slurry removed end of cycle	High velocity roof fans
2	Weaners	Fully Slatted Floor, slurry removed end of cycle	High velocity roof fans
3	Growers	Fully Slatted Floor, slurry removed end of cycle	High velocity roof fans
4	Finishers	Fully Slatted Floor, slurry removed end of cycle	High velocity roof fans
5	Growers	Fully Slatted Floor removed at least once a week by vacuum	High velocity roof fans
6	Finishers	Fully Slatted Floor removed at least once a week by vacuum	High velocity roof fans
7	Finishers	Fully Slatted Floor, slurry removed end of cycle	Natural
8	Sows	Solid	Natural
9	Farrowing	Fully Slatted Floor, slurry removed end of cycle	Natural
10	Gilts	Solid	Natural
11	Gilts	Solid	Natural
12	Gilts	Solid	Natural

The installation is required to have sufficient capacity to store the total quantity of slurry likely to be produced in 26 weeks to meet the requirements of General Binding Rule 32 (GBR32) of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR). The current 2382m³ capacity Permastore slurry tank, installed in 2011 is covered with an 8cm deep natural crust formed by the solid fraction of the slurry content. The farm does not presently have the required amount of storage and the operator proposes to install a new 4142m³ capacity store at a satellite site 1250m away from the main installation.

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Solid manure is stored temporarily in an uncovered manure store on site before being removed (twice weekly) to field middens.

Pigs are fed a combination of wet and dry feed. Feed oils are stored in IBC's and grain is milled and prepared on site. All diets are varied depending on the stage of growth and maintain a low crude protein content. Lazyfold has been a monitor farm for Quality Meat Scotland for several years focusing on improving performance and welfare through efficient food conversion. Feed additives are used to reduce the crude protein required in the diet.

Dust on site is managed by good housekeeping and all feed bins have cyclones. Farrowers, weaners, growers and finishers are all fed wet feed and housed on slatted floors reducing dust from bedding and dry feed.

Primary energy source is a wind turbine with back up from the grid as required. LED lighting is to be installed. The site has a Climate Change Agreement.

Water is abstracted from a borehole and is stored in a 20,000 litre water holding tank. Water consumption is not currently monitored but a water meter is to be installed to more accurately record water use. Water is provided to pigs via nipple drinkers which can be adjusted to the height of the pig aid access and to prevent spillages.

All site drainage is either classed as 1) Contaminated surface water, which is collected and treated in a Constructed Farm Wetland designed according to the 2008 Constructed Farm Wetlands Design Manual for Scotland and Northern Ireland and discharges into the Gadie Burn or 2) lightly contaminated run off from roof surfaces and clean areas which will be conveyed via a swale and silt trap to a settlement pond designed to meet the requirements of CREW (Rural Sustainable Drainage Systems – A practical design and build guide for Scotland's farmers and landowners (2016)).

Kerosene is stored for use in the back-up boiler (a residential central heating boiler). It is stored within the back-up boiler building.

As part of the determination process SEPA is required to consult with a number of external public bodies and address any concerns raised. As a result of those consultations, SEPA can report no objections were received.

Under the Habitats Regulations (Conservation (Natural Habitat, &c.) Regulations 1994 and the Nature Conservation (Scotland) Act 2004, there are duties placed on SEPA to consider potential impacts on Natura/European sites (SAC's, SPA's & RMASAR sites) and UK protected habitats (SSSI's).

Livestock such as pigs emit ammonia (which contains the nutrient nitrogen) into the atmosphere, which may impact certain species of flora and fauna. The SCAIL screening tool provides an estimate of the amount of nitrogen, in various forms, deposited on a habitat from the livestock housing and associated manure and slurry storage. Lazyfold is within 10 kilometres of 3 designated sites. Rhynie Chert, Hill of Johnston and Moss of Kirkhill. Rhynie Chert and Hill of Johnston SSSIs are screened out as they are designated solely for Geological features which do not have to be considered for ammonia/nitrogen/acid deposition impacts. The SCAIL assessment was undertaken on Moss of Kirkhill and showed exceedances of the critical load and critical level. SEPA and NatureScot carried out an appropriate

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assessment of the impact on the specific habitats and their species and confirmed that the proposal would not adversely affect the designated sites.

The applicant has provided detailed odour and noise management plans and the potential impacts on nearby designated sites have been assessed. It has been concluded that there will be no likely significant impact from this proposal.

Glossary of Terms

BAT - Best Available Techniques
 BREF – Best Available Techniques Reference Document
 BAT-C – Best Available Technique Conclusions
 ELV – Emission Limit Value
 CO – Coordinating Officer
 IRPP – Intensive Rearing of Pigs and Poultry BAT Reference Document
 RHS – Relevant Hazardous Substances

2 External Consultation and SEPA's response

Is Public Consultation Required?
 (if no delete rows below)

Yes

Advertisement Check:	Date	Compliance with advertising requirements
Edinburgh Gazette	1/9/23	Compliant
Huntly Express	5/9/23	Compliant

Officer Checking advert: CO

No of responses received

None

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

N/A

Summary of responses withheld from the public register on request and how they were taken into account during the determination:

N/A

Is PPC Statutory Consultation Required?

Yes

NHS Grampian	No response.
Aberdeenshire Council	Planning & Economy service made no comment.
NatureScot	See section 6.

Discretionary Consultation required?

No

Enhanced SEPA Consultation required

No

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“Off site” consultation required	No
Transboundary Consultation required?	No
Is Public Participation Consultation Required? (if yes provide justification and details below, otherwise delete rows below)	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	
Date draft determination placed on SEPA’s Website	30 November 2023
Details of any other ‘appropriate means’ used to advertise the draft. Seek advice from the communication department	
Date public consultation on draft permit opened	30 November 2023
Date public consultation on draft permit consultation closed	
Number of representations received to the consultation	
Date final determination placed on the SEPA’s Website	
Summary of responses and how they were taken into account during the determination:	
Summary of responses withheld from the public register on request and how they were taken into account during the determination:	
REMOVE THIS BOX FROM ANY VERSION OF THIS DOCUMENT TO BE PLACED ON THE WEBSITE OR PUBLIC REGISTER. RETAIN IN THE VERSION FOR THE WORKING FILE.	
Officer:	CO

3 Administrative determinations
Determination of the Schedule 1 Activity
As detailed in the application and its amendments
Determination of the Stationary Technical Unit to be permitted
As detailed in the application and its amendments
Determination of Directly Associated Activities
As detailed in the application and its amendments

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Determination of Site Boundary	
As detailed in the application and its amendments	
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4 Introduction and Background

4.1 Historical Background to the activity and variation

Lazyfold Farm is a 300 acre, mixed arable and commercial pig breeding farm based near Insch in Aberdeenshire at Ordnance Survey grid reference NJ 5704 2655 operated by D.A. & E.M. Skinner. There has been a pig farming operating in this location since 1972. In 2021 the Applicant built 2 new finishing sheds which increased the overall capacity to 3101 finisher pigs and 410 sows, which is more than the thresholds stipulated in the Regulations and therefore a PPC Part A permit is required.

4.2 Description of activity

Rearing pigs intensively in an installation with more than 2,000 places is described in Part A of Section 6.9 (b) of Schedule 1 of the Regulations. Lazyfold Farm proposes to have 3101 places for production pigs, and 410 places for sows.

Other Directly Associated Activities include:

- Feed production, preparation and storage;
- Slurry storage;
- Fuel storage;
- Water storage;
- Chemical storage;
- Manure handling and storage;
- Storage and disposal of fallen stock;
- Management of lightly contaminated surface water;
- Ancillary power generation by a biomass boiler and one diesel generator.

4.3 Outline details of the Variation applied for

N/A

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

None

4.5 Identification of important and sensitive receptors

Lazyfold is within 10 kilometres of 3 designated sites. Rhynie Chert, Hill of Johnston and Moss of Kirkhill. Rhynie Chert and Hill of Johnston SSSIs are screened out as they are designated solely for Geological features which do not have to be considered for ammonia/nitrogen/acid deposition impacts (see section 5.2 and section 6 below).

There are no residential receptors within 250m of the installation and therefore no human health assessments are required.

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5 Key Environmental Issues

5.1 Summary of significant environmental impacts

SEPA have identified a number of key environmental impacts and how they must be addressed.

1. Ammonia emissions.
2. Manure and slurry storage.
3. Surface water drainage.
4. Protection of soil and groundwater.
5. Odour.
6. Noise
7. Chemical use.
8. Fuel containment.
9. Energy efficiency.
10. Waste minimisation, storage and disposal.
11. Resource utilisation.
12. Environmental management systems.

5.2 Emissions to Air

Point Source emission to air:

Ammonia (BAT 23 & 31)

Ammonia can be carried on the air and deposited in lochs and ponds causing eutrophication. The main source of ammonia will be from the animal housing from the roof fans or fugitive emissions from units with natural ventilation and from slurry and manure storage.

Under the Habitats Regulations (Conservation (Natural Habitat, &c.) Regulations 1994 and the Nature Conservation (Scotland) Act 2004, there are duties placed on SEPA to consider potential impacts on Natura/European sites (SAC's, SPA's & RAMSAR sites) and UK protected habitats (SSSI's).

To quantify the amount of ammonia which will be emitted, SEPA use DEFRA-approved emission factors. The emission factors are specific to each housing system. Some housing systems are more efficient than others and will result in a lower emission factor.

To screen the potential impact of ammonia from the proposal on the designated sites, the Applicant and SEPA use the SCAIL screening tool (Simple Calculation of Atmospheric Impact Limits). Sites designated for geological features are screened out and therefore only Moss of Kirkhill is of interest.

Background levels were taken from the UK Air Pollution Information System (APIS) GIS mapping tool. The background at Moss of Kirkhill already exceeds the Critical Level for NH₃ and the Critical load for nutrient and gas deposition.

The background plus process contribution, i.e. the total amount of pollutant expected to be experienced by the receptor, is called the Predicted Environmental Contribution (PEC). Where the PEC is less than the benchmark (i.e. < 100% of the critical load or level), or where the process contribution is less than 4% of the benchmark then it is considered unlikely that there will be a significant effect on the designated site as a consequence of the proposed regulated activity.

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Initial screening failed for Moss of Kirkhill. However, the SCAIL screening tool produced anomalous results due to overcompensating (optimistically) for existing sheds. SEPA Specialists ran SCAIL using various methods to get an accurate result. Even without the correcting methods, the initial assessment and screening showed exceedances therefore a significant effect/potential damage to Moss of Kirkhill SSSI could not be ruled out.

The Applicant was therefore required to undertake detailed dispersion modelling to inform an appropriate assessment of the risk posed to Moss of Kirkhill SSSI from the proposed activity. There have been no changes in emissions or any new proposed emissions within 10km of Rora Moss that are not included in the background values, therefore in-combination assessment is not relevant.

In September 2019, The Airshed produced a detailed Air Quality Impact Assessment. Impacts were assessed in terms of Critical Levels (airborne concentrations) and Critical Loads for nitrogen deposition as a nutrient, and acid gas deposition predicted using ADMS 5.

Results were as follows:

Site	Pollutant	Units	Baseline	Process Contribution (PC) ⁽¹⁾	Predicted Environmental Concentration (PEC) ⁽²⁾	Critical Load or Level (CL) ⁽³⁾	(PC/CL)%
Moss of Kirkhill R02	Acid gas deposition	Keq/ha/yr	0.61	0.03	0.64	APIS	5%
	Nitrogen Deposition	kg N/ha/yr	13.02	0.43	13.5	10	4%
Site assessed as bog habitat	NH ₃	ug/m3 annual	1.14	0.083	1.22	1	8%

The Airshed report concludes that the predicted Process contributions in terms of critical level and critical load are of minor significance.

SEPA and NatureScot carried out an appropriate assessment of the impact on the specific habitats and their species and confirmed that the proposal would not adversely affect the designated sites (see section 6 below).

Fugitive emissions to air:

PM₁₀

Where sensitive receptors are located within 250 metres, the Applicant is required to screen particulate matter to establish whether the emissions will cause air quality objectives to be breached. The SCAIL Tool Guidance provides screening criteria for PM₁₀. The threshold is considered breached if it is greater than 10% of the relevant standard.

There are no human health receptors within 250m of Lazyfold pig farm and therefore no further assessment is required.

Generator

The emergency generator is only used in the event of a power failure. It is regularly maintained.

Odour:

The potential odour issues from intensive pig rearing are ammonia from housing and manure storage, with secondary odours from the use of any chemicals or disinfectants to clean the sheds.

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The permit holder must utilise BAT to prevent or where that is not possible, minimise odour from the installation.

BAT for Lazyfold is set out in the Odour Management Plan which has been submitted as part of the application. It considers all activity on site and the potential to cause complaints of odour and ways to control it.

BAT for slurry storage is to cover it with a rigid cover. The applicant has proposed to maintain a natural crust on the existing tower. Whilst this is still recognised at BAT, providing the crust forms completely, the ammonia reduction afforded by a solid cover is greater and this is an area which SEPA will pursue to achieve further ammonia reduction in the future. The new slurry tower will have a rigid cover.

5.3 Emissions to Water

Point Source Emissions to Surface Water and Sewer:

The main risk to the water environment from a pig farm is the potential for spillages of manures and slurries, feed material and fuel. Sufficient storage capacity, containment and good housekeeping is key to preventing material contaminating surface water.

Contamination of yard areas should be minimised to reduce the amount of contaminated run off that requires treatment and the generic BAT requirement and the Environmental Management System (EMS) (see section 5.7) will be used to ensure good housekeeping across the site.

There will be no point source emissions to surface water. There are no public sewers in the vicinity of Lazyfold. All site drainage is either classed as 1) Contaminated surface water which is collected and treated in a Constructed Farm Wetland designed according to the 2008 Constructed Farm Wetlands Design Manual for Scotland and Northern Ireland and discharges into the Gadie Burn or 2) Lightly contaminated run off from roof surfaces and clean areas which will be conveyed via a swale and silt trap to a settlement pond designed to meet the requirements of CREW (Rural Sustainable Drainage Systems – A practical design and build guide for Scotland’s farmers and landowners (2016)).

The installation must have sufficient capacity to store the total quantity of slurry likely to be produced in 26 weeks to meet the requirements of General Binding Rule 32 (GBR32) of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR). In addition, The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008 requires farms located within a Nitrate Vulnerable Zone (NVZ) to have capacity for 26 weeks slurry storage. Lazyfold Farm is located within the Aberdeenshire, Banff, Buchan and Moray NVZ.

The farm does not presently have the required amount of storage. The current 2382 m3 capacity Permastore slurry tank, installed in 2011 is covered with an 8cm deep natural crust formed by the solid fraction of the slurry content. The operator proposes to install a new 4142m3 capacity store at a satellite site 1250m away with solid cover early in 2024 once planning permission has been obtained.

BAT for slurry storage it to cover it with a solid cover. The existing store is covered with a natural crust at present and whilst this is still recognised at BAT, the ammonia reduction afforded by a solid cover is greater and this is an area which SEPA will pursue to achieve further ammonia reduction in the future.

There is no vehicle wash area or knapsack spraying of vehicles carried out on site, therefore there is no condition requiring excess spray and liquid run-off from disinfection of vehicles to be collected and contained.

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Point Source Emissions to Groundwater:

There will be no point source emissions to groundwater. The applicant has submitted a baseline report with relevant soil and groundwater analysis which will be used to evaluate future potential risks from the date of permit issue (see section 5.8).

Fugitive Emissions to Water:

Permit condition 4.3.1 states that '*The emission of any other substance, not specified in Tables 3 and 4 from the installation must not cause environmental harm.*'

Potential sources of fugitive emissions to water include poorly maintained drainage and containment systems, lack of care during cleaning and diesel tank filling and associated bund emptying.

All slurry containment must meet the requirements of General Binding Rule 32 (GBR32) of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR). SEPA considers GBR 32 to be BAT for such containment.

SEPA views fugitive releases as avoidable and are usually linked to either operational error or negligence. The operator is required to reduce fugitive releases by training relevant staff in environmental issues and exercising a high degree of environmental management over the activities they undertake.

5.4 Noise

The permit holder must utilise BAT to prevent or where that is not possible, minimise noise from the installation. Noise from farms is usually related to specific activities such as livestock collection, feed delivery and poor maintenance of plant such as ventilation fans.

BAT for Lazyfold is set out in the Noise Management Plan which has been submitted as part of the application. It considers all activity on site and the potential to cause noise complaints and ways to control it.

5.5 Resource Utilisation

PPC aims to ensure that resources are used as efficiently as possible to reduce the use of natural resources and reduce waste.

Condition 8.2.2 requires a report detailing a review of resource utilisation at the installation to be submitted every 4 years identifying ways to reduce emissions and demonstrating that resource utilisation is improving year-on-year.

The assessment will need to consider:

Water use – Water is sourced from an on-site borehole. Optimising water use will reduce the volume of wastewater generated and a key aspect of that is monitoring water use. Water consumption is not currently monitored at Lazyfold, but a water meter is proposed.

Energy use and generation – Welfare of the pigs will dictate energy usage, but all housing should be operated to be consistent with BAT for energy efficiency in terms of heat, insulation, light, and ventilation.

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Operating efficiently will minimise emissions and reduce carbon footprint. The site has a Froling P4 60 biomass boiler to provide heating for the farrowing houses and an emergency generator. BAT for energy efficiency is also met as Lazyfold have entered a Climate Change Agreement with NFUS - Reference *NFU1/F00054 Lazyfold*.

Raw materials selection and use – this will link in with the EMS, identifying local suppliers and alternative products as part of the overall purchasing policy for items such as bedding, fuel, biocides. Poor storage may lead to damage of products and higher waste.

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

Chemicals are stored on site in low volumes in secured, bunded locations on an impermeable surface, the condition of which is checked routinely when the housing is washed out.

All wash-water is collected with slurry and spread to land. The risk of release of chemicals to the soil or groundwater is negligible given the large volumes of water required for wash down, dilution will be substantial.

Small quantities of disinfectant concentrate (up to 50 litres/kg) may be held on site in sealed containers in a bunded store. Chemicals for cleaning are only brought on site for immediate use during the cleaning out phases. Veterinary medicines (including vaccines) are only brought onto the site for immediate use under veterinary supervision and are kept within the utility area at the ends of each shed.

Fuel for the back-up boiler is stored in a 1000 litre kerosene tank. It is an integrally bunded tank stored next to the generator building on an impermeable concrete base. Diesel is delivered by bulk tanker which draws up alongside the shed and uses a pump with automatic cut-off to ensure no overflow. All delivery fuel drivers carry spill kits and absorbent materials.

5.6 Waste Management and Handling

There is very little waste generated by the process. Manures and slurries are considered valuable organic fertilisers and will be spread to land in accordance with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) General Binding Rule (GBR) 18. Fallen stock is stored in a secure container and collected By North East Fallen Stock, for disposal at a suitably licenced facility. General waste, both recyclable and non recyclable is stored in clearly identifiable containers and collected by Aberdeenshire Council. The volume of all waste generated should be considered in the relevant section of the resource efficiency assessment.

5.7 Management of the site

Environmental Management System

Regulation 22 of the Regulations is the 'general' BAT condition that requires the authorised person must use the best available techniques (BAT) for preventing, or where that is not practicable, reducing emissions from the installation or mobile plant. It applies to aspects of the operation that have not been regulated by specific conditions such as management supervision systems, training and qualifications and maintenance in general.

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BAT for Management includes the production and maintenance of an Environmental Management System (EMS) which amongst other things identifies all possible pollution risks and incorporates procedures to prevent or minimise pollution.

The IRPP 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

Accidents and their Consequences

The operator is required to prepare and implement an Incident Prevention and Mitigation Plan (IPMP). This sets out actions to be taken in the event of an incident for example, malfunction, breakdown, leakage which could lead to an unauthorised emission and which may cause pollution.

It must also identify what action must be taken to minimise the environmental consequences of an accident such as shutting off diverter valves and protecting vulnerable areas such as feed silos. The IPMP must be reviewed after an incident to prevent the same problem happening again and a record made of all incidents throughout the life of the permit.

Closure

The operator is required to prepare and maintain and when required implement a site closure plan demonstrating consideration has been given to how the site will be decommissioned and the land returned to a satisfactory state in conjunction with the Baseline report.

It should address removal of infrastructure, waste, and any hazardous materials chemicals, fuel asbestos etc.

5.8 Site Condition (and Baseline) Report

The applicant has provided a comprehensive Site Condition and Baseline Report. The report identifies all substances held on site and information about the Relevant Hazardous Substances (RHS) contained within each as well as details of how it is used and stored and the likelihood of release.

There is no evidence of any historical use of chemicals/fuel/oil/slurry on site or burial pits prior to the operation of the site as a pig farm. The risk of release of hydrocarbons to the soil or groundwater is considered negligible and therefore the baseline will be taken to be zero.

There is no evidence of kerosene contamination in the boiler storage area i.e. there are no stains on the concrete base. Any accidental spill/leak out with the building would be contained using absorbent

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material and disposed of appropriately (i.e. as hazardous waste). There are no known historical storage locations of fuel/oil on site.

The history of pig farming on the site and discharge of heavily contaminated rainwater to the ponds, means that nutrient enrichment within the soil around the settlement pond and groundwater in field drains is possible. Substances of concern are ammonia and phosphate from slurry and manure. Representative groundwater samples and soil samples have been taken at various locations in June 2021 and May 2023.

2021

Location	National Grid Reference (NGR) NJ -	Laboratory reference	Nitrates (NO ₃)	Ammoniacal Nitrogen	Ortho-phosphate
			(mg/l)	(as N) (mg/l)	(mg/l)
SAMPLE 1. Borehole	57039 26705	10217991	173	< 0.1	<0.5
SAMPLE 2. Bottom Trap	56974 25999	10217992	59	0.23	<0.5
SAMPLE 3. 2 nd Bottom Trap	56873 26141	10217993	16	0.29	<0.5
SAMPLE 4. Top/Middle Moss Trap	56631 26238	10217994	15	0.17	<0.5
SAMPLE 5. Top Centre Trap	56494 26303	10217995	11	0.11	<0.5
SAMPLE 6. Gadie Burn	56872 25015	10217996	22	<0.1	<0.5

2023

Location	National Grid Reference (NGR) NJ -	Laboratory reference	Nitrates (NO ₃)	Ammoniacal Nitrogen	Ortho-phosphate
			(mg/l)	(as N) (mg/l)	(mg/l)
SAMPLE 1. Borehole	57039 26705	10240502	150	< 0.1	<0.5
SAMPLE 2. Bottom Trap	56974 25999	10240503	61	0.28	<0.5
2 nd Bottom Trap	56873 26141	N/A	-	-	-
SAMPLE 3. Top/Middle Moss Trap	56631 26238	10240504	11	0.17	<0.5
SAMPLE 4. Top Centre Trap	56494 26303	10240505	9	0.14	<0.5
SAMPLE 6. Gadie Burn	56872 25015	10240506	22	<0.1	<0.5

Nitrates are high in groundwater which is to be expected being that the farm is located within the Aberdeenshire, Banff, Buchan and Moray NVZ.

Samples taken elsewhere on site, show lower levels ranging between 11 and 61mg/l. Elevated levels of ammoniacal nitrogen (as N) have been identified in the Red Moss area, ranging from between 0.11 and 0.29mg/l. Elsewhere levels of ammoniacal nitrogen (as N) are below the limit of detection (0.5mg/l).

Ammoniacal nitrogen was detected in the soil after the settlement ponds which may indicate contamination from the site. Significant improvements are being made to the management of contaminated water from the unit. The soil nitrate level is not particularly high and similar to the water samples elsewhere on farm (excluding the borehole).

Orthophosphate is below the 0.5mg/l limit of detection in water/groundwater at all sampling locations and is not considered to be a concern.

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Significant improvements are being made to the management of contaminated water, the existing undersized settlement ponds are being replaced by a suitably sized Constructed Farm Wetland which will treat all contaminated water which should result in a reduction in nutrient levels in soil and groundwater at future monitoring events. Permit condition 5.2.4 will require routine groundwater sampling annually at all locations and 5.2.5 will require soil monitoring every 2 years.

5.9 Monitoring

SEPA places a lot of emphasis on self-monitoring and record-keeping as keys to the successful running of a PPC installation.

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 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.

5.10 Consideration of BAT and compliance with BAT-Cs if appropriate

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.

6 Other Legislation Considered

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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? **Yes**

The modelling by Airshed indicated levels which may lead to minor adverse effect and potential damage. The modelling report considered different mitigation scenario's including different ventilation arrangements. Upgrading the ventilation only reduced the ammonia by around 1% in terms of the process contribution of critical level; therefore was unlikely to be worth investing in ventilation upgrades and instead the applicant carried out a full BAT assessment of all sheds, slurry management and storage arrangements to understand what alternative upgrades could be incorporated.

The applicant re-submitted the modelling report based on local wind data provided from a local wind turbine and approved by SEPA. This concluded a reduced process contribution (from all sources) from 8% to 7%.

In response to the model results, the applicant argued that the model parameters were not accurate because:

1. The numbers were based on minimum space standards not actual capacity considering the bottle neck of pig husbandry at the farrowing crates;
2. A 20% reduction for reduced crude protein in feed was not applied to the pig emission factors;
3. Emission factors for houses 10, 11 and 12 were too high as these were set for sows rather than gilts and, in some of these houses, the gilts are <60kg.

The applicant also now proposes to remove slurry from the underslat stores in the largest houses 5 and 6 will be emptied by vacuum system by removing plugs within the stores at least weekly. Slurry will flow via gravity and will be transferred into the reception pit using a transfer pump, from here it will be transferred to a slurry tank. Ammonia emissions can be reduced by a reported 25% through the frequent (once or twice a week) drainage of slurry (TFRN, Options for Ammonia Mitigation - Guidance from the UNECE Task Force on Reactive Nitrogen, 2014) rather than leaving the slurry in the tanks until the end of each batch which is usually the case.

The applicant made the argument that total ammonia emissions, based on the initial model, could therefore be reduced by up to 42%. The applicant applied the reductions as a percent to the process contribution. The final process contribution, with crude protein and frequent slurry removal, would be 4.07%.

Furthermore, the applicant argued that emissions from existing buildings would already be included in the background data. ADMS 5 can't deduct existing sources from the background. It can only model explicit sources and add on background at the end (which includes existing sources), so modelling all sheds again is double counting the existing units and the additional ammonia emissions from the installation of the new buildings are, in fact, significantly lower.

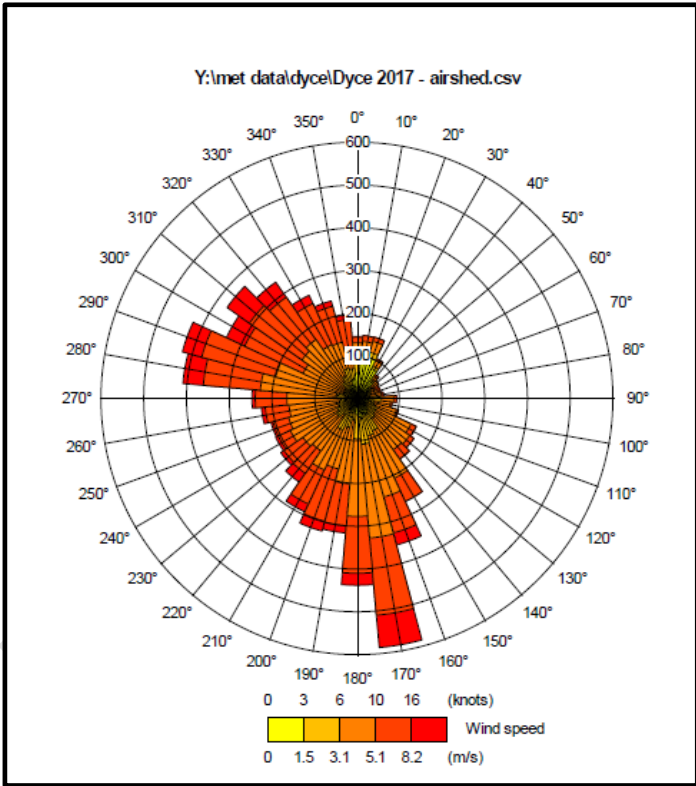
SEPA has assessed the proposal and agree that the new sheds make only a negligible increase to the total contribution from the farm, with the background levels already exceeding the critical level for ammonia.

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Frequent removal of slurry from Sheds 5 and 6 will reduce emissions by 931 kg NH3/year leaving a total overall increase of 318 kg NH3/year. This is 2% of the total emissions modelled in the original report. This farm has been operating since 1972 so it has been contributing to the background since it began operating. Permitting this proposal is an opportunity to implement BAT to drive down emissions further in the long term.

BAT for slurry towers is to install a rigid cover. The applicant has proposed to maintain a natural crust on the existing tower. Whilst this is still recognised as BAT, providing the crust forms completely, the ammonia reduction afforded by a solid cover is greater and this is an area which SEPA will pursue to achieve further ammonia reduction in the future. Additionally, the applicant is also considering a slurry separator. The separation allows the slurry to flow and will be an opportunity to ‘flush’ the underslat stores to remove debris. Separation also reduces ammonia, but it will mean that a natural crust will be unlikely to form and therefore an alternative cover will be required on the existing store, such as ceramic balls of hexabricks or a full rigid cover.

The operator also plans to upgrade the farrowing houses in approximately 5 years, this will be an opportunity to reduce emissions. The farrowing pigs are currently in a fully slatted system which has an emission factor of 5.84kg NH3/animal place /year. The operator will need to investigate installing a system with lower emissions e.g., vacuum system.



There is existing woodland approximately 200m away in between Lazyfold and Moss of Kirkhill. These trees are, around 20 years old, extend approximately 20m-150m deep and contain a mix of species including both coniferous and deciduous trees. These have not been taken into consideration for modelling purposes and cannot be considered as a tree shelter belt as such, but they will be providing a level of absorption of ammonia as the wind carries the emissions in a south/south easterly direction. The applicant has established that the landowner has no intention of felling the trees in the near or distant future. There is also potential to add an additional tree shelter belt between the unit and that existing woodland although the reduction that this would afford has not been quantified in the application.

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NatureScot Sitelink information states that in July 2010 the feature condition was Unfavourable Declining. Site condition monitoring carried out in both 2002 and 2010 found the site to be in unfavourable condition due to the spread of willow and birch scrub.

Objectives for management focus around retention of the wetland habitats in particular the open fen expanse and to maintain the present hydrological regime whereby the specialised habitats are not compromised by nutrient-rich water flows and sediment deposition for the surrounding area. It is unlikely that the operation of Lazyfold pig farm will have any impact on these objectives. The notified interest of the site is 'Basin fen' which is sensitive to N enrichment. This habitat includes a mosaic of fen, marsh and swamp vegetation communities which are spread throughout the site. Patches of willow and birch scrub also occur.

NatureScot have recently funded primary and follow up scrub control works at the site and it is now considered to be in 'unfavourable recovering due to management' condition. The major influence on condition of this site is currently the expansion of birch and willow scrub and drainage. N enrichment is not listed as a current pressure on site condition.

In terms of the HRA and risk assessment NatureScot agreed that the additional emissions are unlikely to have a significant adverse effect on the site.

Conclusion

- Lazyfold is an existing pig farm which has operated since 1972, two new finisher buildings increased pig numbers to above PPC threshold.
- Model results do not account for reductions when considering realistic capacity, errors inputting pig type and crude protein reductions in current pig diets.
- The two new finisher sheds which bring the installation under the remit of the PPC Regulations, contribute a small amount in addition to what has been in the background since 1972. In addition, the underslat slurry stores at the new sheds will be emptied at least once per week, further driving down ammonia emissions.
- Protection of the Designated Feature does not explicitly refer to ammonia or nutrient or acid deposition.
- The applicant has set out several options for further reductions in the long term which can be managed under PPC permit conditions.

Screening distance(s) used	10km
Is there any other legislation that was considered during determination of the permit (for example installations that may be impacted by the requirements of legislation involving Animal By Products, Food Standards, Waste, WEEE regulations etc).	No
Officer	CO

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?

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N/A Not a COMAH facility.

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 Not a COMAH facility.

Officer: CO

Do you propose placing any non standard conditions in the Permit?

Yes

Do you propose making changes to existing text, tables or diagrams within the permit?

No

Outline the changes required and provide justification below:

Proposed Condition Number:	Proposed Change:	Justification:
3.1.2	The below ground slurry storage tanks located underneath the fully slatted floors in houses 5&6 shall be emptied at least weekly.	The nature conservation assessment has been accepted on the basis of a 25% reduction in the emission factor for pigs housed in sheds 5&6 because the operator will remove slurry from beneath the slats at least weekly.

Officer: CO

8 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

Officer: CO

9 Peer Review

Has the determination and draft permit been Peer Reviewed?

Yes

Comments made:

- Corrections / clarifications to EAS charging calculation.
- Addition of frequent slurry removal method.
- Queried improvements made to contaminated water treatment.
- Removal of Ringlemann for generator exhausts.
- Check cross references with permit conditions.
- Corrections in permit to ensure consistency.

Officer: Peer Reviewer

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10 Final Determination

Issue of a Permit - Based on the information available at the time

Issue a Permit – 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/mobile plant,
- The applicant will ensure that the installation/mobile plant is operated so as to comply with the conditions of the Permit,
- The applicant is a fit and proper person (specified waste management activities only),
- Planning permission for the activity is in force (specified waste management activities only),
- 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.