Application reference: EPR/XP3632QE/V003
Operator: Wayland Farms Ltd
Facility: Methwold Farm Pig Unit, Methwold Group, Methwold, IP26 4RJ

Response to Environment Agency request for more information 22/07/2024

1. Slurry Lagoon A

Lagoon A is currently outside of the installation boundary for Feltwell Fm

a) Confirmed operator is the landowner and purchased the lagoon with the farm. Retrospectively including lagoon in an application to vary permit, having been overlooked in the permit application. Expect to only use lagoon B for proposed new housing for 14,000 pig places on solid floor straw system, and lagoon A as a potential back-up.

b) Feltwell Fm will be sole user, no agreements in place with any third parties to use lagoons A or B.

c) Submitted updated OS map to be included in the permit showing lagoon enclosed inside the installation boundary at Feltwell Fm pig unit.

   Not considered necessary to also add the lagoon into the Trundley proposed site layout or drainage plans at the 1:500 scale owing to not directly connected to site drainage, and pdf files would become extraordinarily large. Slurry will have to be transferred from lagoon B to A by tanker if the latter is ever required for back-up.

d) Submitted updated site condition report with inclusion of lagoon (0.49ha) within the installation boundary.

e) Submitted revised Q2b Summary of proposed change with inclusion of lagoon within the installation boundary in the Supporting information to vary permit for Feltwell Fm.

2. Feltwell Fm DMP, NMP & OMP

According to our mapping system there appear to be two receptors within 100m of the installation boundary that have not been included

a) Confirmed onsite on 25/07/24 one already included in the plans, the other is not a sensitive receptor and also recognised additional residential dwellings in a terrace:-

TL 73040 92824	Listed as a sensitive receptor in the management plans, and corrected grid reference for avoidance of doubt
TL 73037 92804	Not a sensitive receptor – a large wooden garage/workshop inside the property boundary of bungalow at TL 73046 92846
TL 73085 92858	Added residential dwelling in a terrace with TL 73079 92861
TL 73089 92856	Added residential dwelling in a terrace with TL 73079 92861

b) Updated Fig 1. Feltwell Fm Pig Unit receptor locations within 100m & 400m in the DMP, NMP & OMP to show a larger search area owing to enclosing lagoon inside the installation boundary but not identified any additional sensitive receptors as result. The plans for Methwold (Beckland) Fm poultry unit are not affected. Submitted updated DMP, NMP & OMP for Feltwell Fm Pig Unit.

3. Evaporative cooling units on Methwold (Breckland) Fm poultry unit

In the duly made response it advises no cleaning chemicals or disinfectant to be used for any cleaning, will enter into water circulation system, and evaporate into air stream.

The evaporative cooling units do not have any independent outlet point to air so no additional point source emissions required in the permit, everything exhausted mostly via extraction fans in the ridges or occasionally via the heat exchangers.

The units will be installed outside on the inlet vents themselves, so all the fresh air is drawn in through both by the extraction fans. Or a mixture of cooled fresh air and water vapour when the cooling units are switched on in warm weather. The units are passive with no moving parts or independent outlets to air, besides the extraction fans and heat exchangers. Cooling units not likely to be switched on in early weeks of a production cycle when eggs and chicks must be kept warm, when ventilation will be via heat exchangers.

4. Ammonia modelling

Please conduct a revised ammonia modelling assessment and submit a revised report that uses appropriate emission factors (EF's) (not BAT-AEL's) for pigs on fully slatted floor (FSF) systems that comply with the BAT-AEL's for existing housing

a) For pigs >30kg at Feltwell Fm that are housed on fully slatted (FSF) systems use frequent slurry and manure removal to external storage:-

   i. Comply with BATc30 to reduce ammonia emissions to air using technique a1 - a vacuum system for frequent slurry removal (in case of a fully or partly slatted floor), and slurry stored in lagoon B.

   ii. Confirm frequent slurry removal meets both the EA criteria given - depth of the pits below the slats is <800mm and slurry could be removed every 10 weeks or less if all the existing houses were in use. Checked pits on 25/07/24 using a steel T-bar to penetrate any residual slurry to confirm all <800mm deep (mostly 750-800mm) and none <500mm. Pits provide optimal slurry depth as described in section 4.7.1.2 in the BREF. Operator confirmed slurry can be removed by opening a valve in the main slurry pipe, so a slight vacuum develops and allows for a through slurry removal, better than by gravity alone.

   iii. Concluded frequent slurry removal does meet the criteria above so use EF of 2 kgNH3/ap/year in the revised modelling as instructed by EA in the email dated 22/07/24. Unaware of the source for the factor, but less than the required BAT-AEL 2.6 kgNH3/ap/year for existing housing.

b) For pigs 7-30kg at Feltwell Fm that are housed on fully slatted floor (FSF) systems use frequent slurry and manure removal to external storage:-

i. Comply with BATc30 to reduce ammonia emissions to air using technique a1 - a vacuum system for frequent slurry removal (in case of a fully or partly slatted floor), and slurry stored in lagoon B.

ii. Confirm frequent slurry removal meets both the EA criteria given - depth of the pits below the slats is <800mm and slurry could be removed every 10 weeks or less if all the existing houses were in use. Checked pits on 25/07/24 using a steel T-bar to penetrate any residual slurry to confirm all <800mm deep (mostly 750-800mm) and none <500mm. Pits provide optimal slurry depth as described in section 4.7.1.2 in the BREF. Operator confirmed slurry can be removed by opening a valve in the main slurry pipe, so a slight vacuum develops and allows for a through slurry removal, better than by gravity alone.

iii. Use the current EA factor 0.43 for pen/flat deck with FSF/PSF with vacuum system for frequent slurry removal for input into the revised model – less than the BAT-AEL 0.53 kgNH3/ap/year for this housing system. Correct housing system described in permit application for pigs 7-30kg and in Table 2 in the response to request for more information 03/05/24 but erroneously selected the BAT-AEL 0.7 kgNH3/ap/yr for FSF for input into the existing permitted (baseline) model.

iv. No further measures required to demonstrate any further reduction in ammonia emissions, for example nutritional management - reduce crude protein in diets using supplementary essential synthetic amino acids.

v. Appropriate EF to be used in revised modelling assessment shown in table 1:-

Table 1 – Livestock numbers & housing types for input into existing (baseline) scenario

Farm	Livestock type	Housing type	Ventilation	Factor kgNH_3/ place/year [1]	Number of animal places
Feltwell	Weaners Pigs 7-30kg	Pen/flat deck with FSF/PSF with vacuum system for frequent slurry removal [4]	Roof ventilation only. High velocity (vents greater than 3.5m high, fan efflux velocity greater than 2m/s	~~0.7~~ 0.43 [5]	7,050 [6]
	Growers Pigs >30kg	Solid floor – straw system	Natural/ capped ridge	2.00 [2]	9,644
	Finishers Pigs >30kg	~~Fully slatted floor (FSF~~) Fully slatted floor with	Roof ventilation only. High velocity (vents greater than 3.5m high, fan efflux	~~3.60~~ 2.00 [7]	5,148

		vacuum system	velocity greater than 2m/s		
	Finishers Pigs >30kg	~~Fully slatted floor (FSF~~) Fully slatted floor with vacuum system	Side ventilation with fans and roof inlets [8]	~~3.60~~ 2.00 [7]	1,272
	Boars	-	-	5.72	10 [3]

[1] EA Pre-application Request Form; Intensive Farming; Pigs.
[2] EA advise for existing permitted scenario, where production pigs >30kg are housed on solid floor -straw system use emission factor 2kg kgNH_3/place/year, based on AHDB Pork Trials 2017 for production Pigs on straw.
[3] Capacity for pigs >30kg at Airfield and Feltwell Fm in Schedule 1 of the permit (note this includes 10 places for boars shown at Methwold Fm.
[4] Housing for weaners described in the existing permit application in Table1, versus on solid floor-straw system and natural ventilation in the introductory note in the permit.
[5] ~~Use legally binding BAT AEL lower than EA factor for existing baseline scenario.~~ Use current ammonia emission factor – lower than the BAT-AEL for this housing system.
[6] Operator supplied number of places for weaners 7-30kg all the progeny of sows at Methwold Fm a directly associated activity in the permit to be included in the baseline.
[7] ~~Use legally binding BAT-AEL lower than EA factor in existing baseline scenario.~~ Use 2 kgNH3/ap/year in revised modelling as instructed by EA in email dated 22/07/24.
[8] All slurry-based buildings are ventilated by fans in the roofs and vents in sides of the buildings, except for buildings [14&15] which have fans on the side and roof vents, described in the introductory note.

c) Submitted Redmore Environmental; Ammonia Assessment Land at Airfield Farm, Feltwell Farm and Methwold Farm; Reference: 3894-3r2; date 1st August 2024 and EA Model files.zip.

5. Airfield Fm

Confirmed Airfield Fm must be preserved in the application to vary permit. Will continue to be used for rearing 4,874 production pigs >30kg without any changes until demolition and construction phases at Feltwell Fm are complete and new pig houses are brought into use. Unsure on the future of the farm as regards retention in the permit or apply to partially surrender this part of the installation but not important at this time.

Airfield Fm already included in the environmental risk assessment and screened for sensitive receptors within 400m in the DMP, NMP and OMP for Feltwell Fm Pig unit (includes Airfield Fm and Feltwell Fm) and included in the updated modelling above. Submitted revised Q2b Summary of proposed change in the Supporting information to vary permit for Feltwell Fm.

6. List of submitted documents

a) OS map showing lagoon enclosed inside the installation boundary at Feltwell Fm.

b) Site condition report with inclusion of lagoon (0.49ha) within the installation boundary.
c) Supporting information to vary an intensive farming permit for proposed development at Feltwell Farm Pig Unit with updated Q2b Summary of proposed change with inclusion of lagoon and confirmation Airfield Fm must be preserved in the application to vary permit.
d) DMP, NMP & OMP for Feltwell Fm Pig Unit.
e) Redmore Environmental; Ammonia Assessment Land at Airfield Farm, Feltwell Farm and Methwold Farm; Reference: 3894-3r2; date 1st August 2024 and EA Ammonia Model files.zip.

[redacted]02/08/24