

NON-TECHNICAL SUMMARY

New House Farm

PERMIT EPR/XP3539XH; APPLICATION TO VARY 2022

The currently permitted (EPR/XP3539XH) installation consists of a breeder-finisher pig unit, owned and managed by ME Furniss & Sons (Farms). The existing piggery is permitted by the Environment Agency to accommodate 450 sows, 2,040 weaners up to 30kg and 3,060 production pigs over 30kg. The proposal is to replace the breeding herd with a finishing unit, receive weaners and take them through to slaughter weight. The new proposal will not change the permit boundary and will only marginally increase pig numbers. As shown on the attached site plan (Appendix 4), the proposal will increase pig numbers only marginally. The existing breeding unit will be replaced with a new 6,000 place finisher one. Detailed ammonia modelling has shown the proposed changes will show environmental betterment. Most of the decommissioned buildings will be demolished to make way for construction of the new buildings and those that remain will no longer be used for housing.

Background Information

New House Farm, Chester Road, Chetwynd is an existing, operational pig breeding, rearing and finishing unit which is owned and operated by M E Furniss and Sons. The existing piggery is permitted by the Environment Agency to accommodate 450 sows, 2,040 weaners up to 30kg and 3,060 production pigs over 30kg.

New House Farm also includes an Anaerobic Digester Plant (EPR/BB3603MK) which was commissioned on 5th November 2014 with a capacity of 416KW of renewable energy generation using agricultural commodities and wastes as a feed stock. The AD plant currently processes the slurry produced by the existing pig breeding unit.

The existing piggery operation at New House Farm is now outdated and inefficient, and the applicants propose to cease the current pig breeding operations, demolish a number of the existing buildings, and erect a new purpose-built pig finishing unit which will house 6,000 production pigs.

Proposal

The proposed development will be to BAT standards and involves the erection of 3 No. linked livestock buildings, together with a lairage, loading ramp, site office and 12 No. feed bins. The development provides 5,100m² of new floor space and will provide accommodation for up to 6,000 pigs, which will be reared from 40kg through to 110kg.

The use of the proposed buildings will be for the rearing and finishing of pigs from 40kg through to 110kg on a contract basis. Weaners at 40kg will be delivered to the site and reared within the buildings for 14 weeks when they reach 110kg finished weight, at which time they will be removed from the site for processing. The site will operate on a continuous basis, with the buildings stocked on a room-by-room basis. Each building contains four rooms, and each room will accommodate 500 pigs, with 2,000 pig places within each building.

Each building includes 12 No. high speed roof fans which provide ventilation and cooling for the livestock.

Internal equipment includes divisions, feeders and drinkers. The feed system is an automated auger fed feeding system which delivers feed from the proposed feed bins to the feed troughs located within each pen. Water is supplied by nipple drinkers from a borehole sited near to the farm with reference SJ72SW9.

The lower part of the building comprises a concrete tank providing temporary slurry holding capacity underneath the floor of the building. The pen floors are perforated and allow the slurry generated by the pigs to drop through into the under-floor holding tanks.

The floors of the buildings will be linked by a vacuum system for frequent removal of slurry into the existing on-site slurry store which is to be retained as part of the project.

All slurry generated by the development will be processed through the on-site Anaerobic Digester Plant. This represents no change to the existing situation with regard to slurries and manure produced in the existing pig unit.

The new-built housing will be to BAT standard and house >30kg pigs to finishing weight. Associated changes include sealed drainage pipework from the building (FSF shallow pit, with vacuum system for frequent slurry removal). These buildings will be fully controlled SKOV fan ventilated, on a negative pressure system with an air speed of 11 m/s. The height of discharge will be 9m. It will have a fully slatted floor and a dry pump will take the slurry from the under-slat storage, which is shallow. Slurry from the underslat space will be removed at least every 10 weeks.

There will be no manure production and all slurry will be directed to the slurry reception pits.

The slurry, once removed from under-slats, is transferred directly to the reception tank shown at the south of the unit before entering the large tank adjacent and then to the AD unit to the west.

Uncontaminated roof water is collected via gutters and down pipes and is discharged to the river to the north of New House Farm. All slurry (mainly via anaerobic digestion) is spread on farmer-owned land in accordance with the Manure Management Plan.

Carcasses are collected and stored in a sealed collection bin to the north-east of the site.

The installation is surrounded by arable land. It is situated 700m to the West of the village of Cheywynd. There have been no previous issues relating to odour, dust, noise or flies in relation to the installation. There have been no environmental complaints or pollution incidents on the installation, and there are no hazardous dumps/stockpiles.

The prevailing wind direction is south westerly. The risk assessments and management plans in place identify ways in which to mitigate the risks of pollution and nuisance to sensitive sites.

Ammonia Impact Assessment

The site is part of a farm and is for the most part, surrounded by arable land. Habitats on and adjacent to the site include buildings, arable land, grassland, tall ruderal herb and hedgerows.

There are no ponds within the permit boundary. An attenuation pond will be installed adjacent and to the north of the site for clean water drainage and there is one other pond within 500m of the site.

Intensive farming enterprises have the potential to create increased levels of ammonia and nitrogen within the atmosphere in the locality, which can in turn create negative impacts on sites of nature conservation importance, for example, a Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), Ancient Woodlands and Local Wildlife Sites. A detailed ammonia assessment is provided at Appendix 4 which should be read alongside this section.

There are no Local Wildlife Sites (LWSs) or Ancient Woodlands (AWs) within 2 km (the normal screening distance for non-statutory sites) of the farm.

There are six Sites of Special Scientific Interest (SSSIs) within 10 km, one of which is also designated as a Ramsar site. The receptors considered are detailed below as follows:

- Aqualate mere SSSI/Ramsar - Approximately 2.9 km to the east-south-east - The mere and its surrounds form a complex of open water, fen, grassland and woodland unrivalled in Staffordshire for the variety of natural features of special scientific interest.
- Newport Canal SSSI - Approximately 2.2 km to the south-east - A length of about 2 km of disused canal which is one of the best localities for aquatic plants in Shropshire. There is a range of submerged and broad-leaved plant communities, a continuous narrow fringe of marginal swamp and, in some places, more extensive areas of fen.
- Loynton Moss SSSI - Approximately 6.4 km to the north-east - A largely wooded basin mire on the site of a former mere occupying a glacial kettle hole. There is a range of successional woodland and scrub communities and mixed tall fen on nutrient-rich peat, a situation unique in Staffordshire.
- Doley Common SSSI - Approximately 8.4 km to the east - A low-lying, agriculturally-unimproved pasture in the flood plain of the Doley Brook. The major interest is a nationally rare and threatened acidic marshy grassland community, which is extremely scarce in Staffordshire.
- Muxton Marsh SSSI - Approximately 7.8 km to the south - Part of a complex of habitats which have developed in an area left semi-derelict by past coalmining. Impeded drainage caused by spoil dumping has contributed to the formation of wetland habitats here. Reclamation of derelict sites has greatly reduced the area of semi-natural vegetation in this part of Shropshire and this site is the best remaining example of unimproved grassland, fen and carr. The site also includes an area of woodland.
- Tyrley Canal Cutting SSSI - Approximately 9.2 km to the north-north-west - Designated for geological features.

The installation is within a NVZ (Surface water and Groundwater). There is a borehole sited adjacent to the northern access with reference SJ72SW9.

Low energy lighting is used throughout. All feed rations are bought in with diets formulated to match the growth stage of the pigs. Nipple drinkers are used and water consumption is monitored.

All these measures are intended to reduce the production and emission of ammonia, minimise odours and dust and to prevent liquids escaping to the environment. This in turn should reduce the environmental impact of the farming activities.

Odour is reduced by keeping pens as clean as possible, and ammonia production is reduced by optimising protein levels in the diet and minimising losses from slurry.

BAT-AEL Conclusions

Referring to the IRPP BAT Conclusions document, published on the 21st February 2017, we can confirm that we will be able to comply with all relevant BAT conclusions, including the revised BAT Associated Emission Levels (BAT-AEL).

BAT conclusions 3 and 4:

We adopt a nutritional strategy to reduce the levels of nitrogen (N) and phosphorus (P) excretion and can demonstrate we are meeting the BAT associated excretion levels given in table 1.1 and table 1.2. Feed docket and a current generic statement can be provided to demonstrate a reducing protein (N) and phosphorus (P or total P) diet over the whole life cycle.

BAT conclusion 24:

We will use manure analysis to estimate total N and P content in manure and will report this to you annually.

BAT conclusion 25:

We will monitor ammonia emissions and demonstrate emission levels through use of emission factors.

BAT conclusion 27:

We will monitor and demonstrate dust emissions from each animal house, by use of emission factors.

BAT conclusion 30:

BAT 30 (a –e) Techniques used:

Fully slatted system over pit (managed within 800mm depth), operating frequent slurry removal (a minimum of every 10 weeks), All slurry and contaminated water (wash water) is collected in the under-slat storage pits and there is no separate storage within the installation. Collection of slurry is by sealed system into covered onsite slurry store. Slurry is then piped to the permitted AD plant adjacent. These measures reduce the ammonia emitting surface and risks of bioaerosol creation.

BAT AEL(s)

The standard emission factor for pigs for the proposed kind of slurry system housing is currently

listed at 3.11 and, to meet the new requirements, the emission per pig must not exceed 2.6kg NH₃/animal place /year. An emission factor of 2 is currently being used based on AHDB Pork trials.

On behalf of M. E. Furniss and Sons, AS Modelling & Data Ltd has been instructed to use computer modelling to assess the impact of ammonia emissions from the existing and proposed pig rearing houses at New House Farm, Chester Road, Chetwynd, Newport TF10 8BN.

Ammonia emission rates from the existing and proposed pig rearing buildings have been assessed and quantified based upon figures obtained from the Inventory of Ammonia Emissions from UK Agriculture (Misselbrook & Gilhespy) and from the Environment Agency's standard emission factors and BAT/AEL emission factors. The ammonia emission rates have then been used as inputs to an atmospheric dispersion and deposition model which calculates ammonia exposure levels and nitrogen and acid deposition rates in the surrounding area.

Existing Scenario

The modelling predicts that:

- The process contribution to ammonia concentrations and nitrogen deposition rates over western parts of Aqualate Mere SSSI/Ramsar site are currently in excess of the Environment Agency's lower threshold percentage (4% for internationally designated sites) of the Critical Level and the Critical Load for the site.
- The process contribution to ammonia concentrations and nitrogen deposition rates over eastern parts of Aqualate Mere SSSI/Ramsar site at all other SSSIs is below the Environment Agency's lower threshold percentage (4% for internationally designated sites and 20% for SSSIs) of the relevant Critical Level and the Critical Load for the site.
- There are currently exceedances of 1% of the Critical Level and/or the Critical Load over Aqualate Mere SSSI/Ramsar site, Newport Canal SSSI and Loynton Moss SSSI.

Proposed Scenario

The modelling predicts that:

- The process contribution to ammonia concentrations and nitrogen deposition rates over westernmost parts of Aqualate Mere SSSI/Ramsar site would be slightly in excess of the Environment Agency's lower threshold percentage (4% for internationally designated sites) of the Critical Level and the Critical Load for the site.
- The process contribution to ammonia concentrations and nitrogen deposition rates over most of Aqualate Mere SSSI/Ramsar site at all other SSSIs would be below the Environment Agency's lower threshold percentage (4% for internationally designated sites and 20% for SSSIs) of the relevant Critical Level and the Critical Load for the site.
- There would be exceedances of 1% of the Critical Level and/or the Critical Load over Aqualate Mere SSSI/Ramsar site, Newport Canal SSSI and Loynton Moss SSSI.

Conclusion

Overall, the effect of the new development is marginal but the contributions to ammonia concentration and nitrogen deposition are reduced from being in excess to only slightly in excess of the Environment Agency's lower threshold percentage (4% for internationally designated sites) of the Critical Level and the Critical Load for the site.

As stated in the Environmental Statement, overall the proposals represent an improvement to ammonia dispersal and a reduction in ammonia and nitrogen deposition at nearby protected ecological sites.