Appendix 2: Non-Technical Summary – Southfield Pig Farm

The installation, originally permitted in 2012, is operated by Cattle (Holderness) Limited. This application is to vary the permitted pig places from 1000 sow places and 3000 >30kg production pig places to 2761 sow places (including pre-weaning piglets) and no production pigs on site (only breeding boars).

All piglets will be removed from site at weaning and served gilts are delivered in as 10 weeks in-pig every 4 weeks. There are therefore no pig places in the categories 7-15, 15-30 or >30kg except for 6 breeding boars.

Though the sow places are increasing by more than 750 places, we understand this application possibly meets the criteria to be classed as a normal variation rather than substantial, due to expected reduction in overall emissions and no change to site installation boundary.

Site management

Slurry is removed by vacuum from underslat pits at least every 10 weeks and slurry depths do not exceed the 800mm depth criteria for designation as shallow pit with frequent removal.

Slurry is piped underground to a clay-lined lagoon located in-field (298 m from nearest pig building). The lagoon has a clay ball cover. Lagoon and underground pipeline pathway are included in permitted area. The lagoon surface area is 2997m2. Storage capacity is 7770m3.

There is a slurry separator on site (electric run). Solids from separation process and FYM from solid floor systems are stored on muck pads (x2) on site. These are covered and have impermeable floors and weeping walls, with effluent captured in the underground reception pits with solid covers, marked R1 and R2 on the site plan (Appendix 4). The capacities of the reception tanks are 80m3 and 50m3. The midden for sow house 3 drains into R2 and the midden for sow house 4 connects into the pipework up to R1.

As well as the middens, loading ramps and pig walkways are also covered, so risk of outside concrete contamination of rainwater is minimised. No drainage from feed kitchen included in slurry system.

The total separate slurry storage capacity for the site (i.e. not included underslat capacity) will be 7770m3 (lagoon) + 130m3 (reception tanks) = 7900m3.

Production per week is calculated to be 238m3. That includes excreta plus wash water and effluent from covered muck pads. 285.5m3 including rainfall on to slurry lagoon area (at 823mm/annum average rainfall for the local area). Which means the whole site (including underslat storage up to 10 weeks' worth of production) will have maximum storage capacity for 10,280m3 which is about 8.3 months' worth of production plus rainfall capacity, while still adhering to the criteria for shallow pit and frequent removal.

Looking at separate storage only, the site has 28 weeks' worth of separate storage capacity.

The production calculations assume 100% occupancy of all pig places, which obviously wouldn't ever happen, so total length of time before capacity reached is actually longer.

There is a maximum of 200t FYM stored on site at any one time which is then removed to temporary field heaps.

All slurry and FYM is applied to land owned and managed by the operator.

There is a home mill and mix located within the installation, which is operated once per week. There is a mixture of dry and liquid feed systems across the installation. Diets are formulated to match the pigs' requirements at any one stage. The feeding system is fully automated and scaled to suit the pigs' requirements, with feed offered a little bit at a time, thereby reducing wastage compared to fully ad-lib systems. Feed systems are fully enclosed through to feed trough, and dust cyclones on the feed silos further mitigate the risk of dust creation.

Roof water and clean yard water is collected and leaves the site at two emission points, to nearby ditches.

Rainwater from F1 and S5 is captured into an underground tank.

Water is sourced from borehole on site and there is mains water back-up. The operator is adding a switchover meter so when they get to 20m3 in a day it goes to mains supply.

Other water storage tanks include:

1) 2 x 20,000 litre tanks buffer store for drinking water
2) 1 x 10,000 litre tank for pressure washing
3) 1 x 6000 litre tank for buffer store for liquid feed system

Water is delivered in bowl drinkers (dry sow houses and Farrowing 3) and nipple drinkers (Farrowing 1 and 2). Water consumption is monitored daily.

The chemical store in the workshop contains: detergent, disinfectant, sharps bins, boxes and containers for disposal, and rodenticide.

Calor gas is stored within the installation boundary for corn drying – 2 x 2000 litre capacity tanks. There are also Kerosene and Diesel tanks on site.

Electricity is from mains supply, except for S4 and S3 which are supplied from solar and wind electricity production. LED lighting is used throughout the site. Farrowing houses have low-powered heat mats in piglet creep areas. This targeted heat will significantly reduce waste of heat and energy and keep the rest of the building at the optimum temperature.

There is a fixed back-up generator with an integrated bunded diesel tank meeting SSAFO regulations. This is housed in a noise-reduction container.

Deadstock will be securely locked in leak-proof and tamper-proof containers before incineration on site in an APHA approved low-capacity (<50kg/hr) carcass incinerator. Incinerator ash is incorporated with manure and applied to land under a U15 waste exemption.

Other waste is stored in designated containers for removal from site by approved waste contractors for disposal or recycling.

Site location

The site is located at National Grid Reference **TA 38036 21037** within a flat landscape and is surrounded by large arable and grass fields. The installation covers approximately 2.5ha.

A stockman for Southfield Farm lives at Point A, at the drive end of the site. The house is owned by the permit operators.

There is one other sensitive receptor site (residential and owned by 3rd party) within 400m of the installation boundary, located to the North of the site.

The Humber Estuary, a designated European site; Dimlington Cliff and The Lagoons, both Sites of Scientific Interest; and a number of Local Wildlife Sites lie within the relevant distance criteria of the installation.

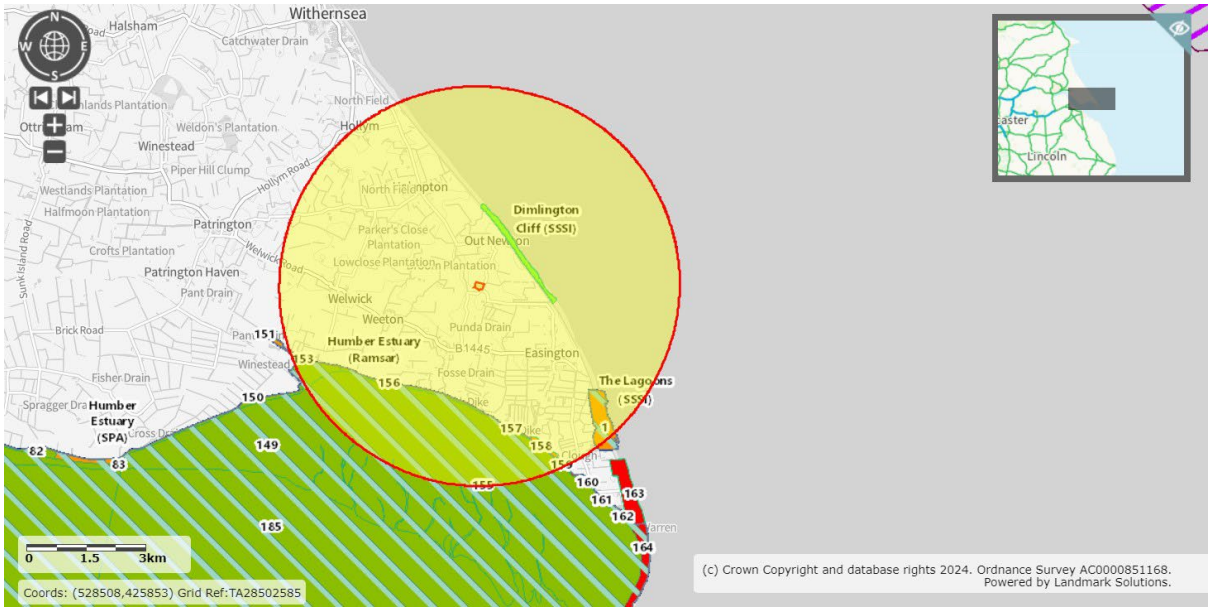

Figure 1: Southfield Pig Unit - 5km buffer zone – designated sites

There are no known pollution incidents for this site or surrounding area. There have been no previous land site investigations or assessments undertaken at the site by Cattle (Holderness) Limited, but there is no evidence of pollution found during building operations on site.

There is no history of odour, noise, dust or pest complaints for the installation under the operation of Cattle (Holderness) Limited.

Appendix 2(a): BAT Compliance Review

Referring to the IRPP BAT Conclusions document, published on the 21st February 2017, we can confirm that we will be able 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 dockets 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). Collection of slurry is by sealed system. Reception tanks covered. Slurry removed frequently, through sealed system via slurry separator, to lagoon (clay ball covered).

For the solid floor, straw bedded system, the bedding is kept clean and dry. FYM is transferred to covered and bunded muck pads, and is removed regularly to temporary field heaps.

Dirty water, wash water and used footbaths are all captured in the slurry system.

These measures reduce the ammonia emitting surface and risks of bioaerosol creation.

Comparison of Emission factors against BAT-AELs

We await advice from the Environment Agency as to what ammonia emission factor to assume going forwards; and will discuss how we will meet the target BAT-AELs if applicable.