OLD RUSH FARM

DUST & BIO-AEROSOLS MANAGEMENT PLAN

Location Address	**Old Rush Poultry Farm**
Permit No.	**EPR/KP3206BK**
National Grid Reference	**SE 77233 32179**

Introduction

This bespoke Dust & Bio-Aerosol Management Plan (DMP) has been prepared to support the overall Environmental Management System in place at Old Rush Poultry Farm. The overriding principle of this DMP is to ensure the day-to-day activities are carried out in accordance with this document to help control and minimise the generation of dust and bio-aerosols and therefore to minimise the overall environmental impact.

There are two sensitive receptors approx. 400m from the installation boundary (both operator owned and residential).
There are no realistic reasons for day-to-day activities to have an external impact. A DMP has therefore been developed for this complex. It is also possible that under certain conditions dust could impact on receptors beyond this range unless the good management practices outlined in this DMP are being applied.

Address	Grid Reference	Distance from Boundary
Old Rush Farmhouse	SE 77010 32499	162m
Old Rush Annexe	SE 77001 32484	150m

The purpose of this Dust Management Plan is to:-

- Establish the likely source of dust and bio-aerosols arising from the farm.
- Set out procedures at the farm to mitigate or minimise the risk of dust.
- Formalise an effective method of dealing with any dust complaints quickly and efficiently.
- Identify any further actions required to improve the impact and management of potential dust.

Potential Dust Sources

The following sources have been identified as contributing to a potential medium – high risk dust and bio-aerosol source:-

- Dust emissions from compound feed selection
- Dust emissions from feed delivery and storage
- Dust emissions from ventilation techniques incl. heat exchangers
- Dust emissions from bird type, growing cycle and husbandry method
- Dust emissions from litter conditions and management
- Dust emissions bird depletion
- Dust emissions from cleanout (litter removal)
- Dust emissions and fine vapours (bio-aerosols) generated from high pressure washing/disinfecting

Pathways and Receptors

The pathway for all the above sources would be via the atmosphere, with the most sensitive receptors being inhabitants of any nearby residential dwellings. Wind direction will significantly influence how receptors are affected.

Dust Management and Control Measures

Possible Dust Sources	Potential Risks & Problems	Actions taken to prevent and minimise risk	Further actions required & comments
Manufacture and selection of compound foods	- Milling and mixing of compound feeds - Poor quality ingredients - Form of feed	- No on-site milling or mixing - Feed specifications are prepared by the feed compounders nutrition specialist. - The nutritionist ensures that nutrient control is balanced as the rations change throughout the crop cycle. - Feed rations are moulded into larger particles (crumb and pellets) in relation to the size and age of the birds being reared. - The levels of fines (dust) are carefully managed at the mill and monitored at the farm during use. - Feed is only supplied by a UFAS accredited feed mill, so that only approved raw materials are utilised in production. - A feed sample for every load of feed delivered to the site is left and documented for both quality assessment and traceability. Samples are kept on site for a minimum of three months.	Ensure ongoing use of UFAS accredited feed mills using FEMAS accredited ingredients. Ongoing monitoring and reporting if high levels of fines are detected.

Feed delivery and storage	- Spillages of feed during delivery and storage - Creation of dust during delivery	- Feed delivery systems are sealed to minimise atmospheric dust. - Dust catchment socks/bags and covers will be in place on all silo pipes and exhausts to trap feed spillages and dust. - All spillages are cleaned up as soon as possible. - Major spillages are reported to the feed mills who will arrange for a sucker/blower to remove the spoiled feed. - Annual condition checks of the silos are carried out.	
Feeding of birds	- Automatic feed systems including weighing equipment and screw augers could damage feed and generate excessive fines if not well maintained. - Over administration resulting in localised spills within the house	- Maintain feed systems and equipment in good working order and correct any faults immediately. - Any manual movement of feed is in containers provided for the purpose and distances of travel are minimised in the system design. - High velocity, fully enclosed, feed augers are in place for feed pans to both feed evenly and avoid unnecessarily degrading the pellet on delivery. - Regular inspections of flocks and equipment for early detection of problems	Automatic feeding is essential on this scale Follow flock by flock inspection of equipment and record findings

Bird type, sex, numbers and growing cycle	- Highly active birds may generate more dust. - Excessive stocking levels can result in higher litter and feed usage and increased potential dust	- Manage the welfare and health of the birds in accordance with AFS assured standards. This includes a requirement for environmental enrichment and maximum stocking densities. Enriched and professionally managed houses will lead to calmer and healthier birds. - Managed crop cycle so birds are only reared to a maximum age and weight before collection by the processors.	Review stock selections with breeders/customers if changes are proposed that could impact on dust generation

Ventilation techniques	- Inadequate air movements within the buildings can lead to high airborne dust levels from the litter/birds. - Inadequate control of inlet and outlet vents and of fans leads to poor dispersal of potential dust build up. - Incorrect fan design and installation - Poor maintenance of fans leading to faulty or inadequate operation and performance - Build up of dust deposits beneath and around gable end fan outlets. - Dust left exposed to the elements can cause issues of fine particle release during drier windy conditions or if left to become wet/waterlogged can blind drainage systems of potentially pollute water courses	- The poultry houses utilise continuous ventilation systems whereby clean air is drawn in through the inlets and exchanged out via the side fans (and gable fans if conditions require) - Dust does not settle and collect on shed roofs with this system. - Dust that accumulates underneath fans is swept and cleared on a regular basis. - Maintenance schedules and service contracts are in place and are carried out in line with manufacturers recommendation and guidance as stated in the EMS. This is to minimise any breakdowns during the flock cycle. - At the end of each flock cycle any accumulated dust is manually collected using a brush and shovel, bagged for transfer into the house and disposed of along with the used litter. Dust deposits may be dampened down with water initially to ease collection and minimise dispersion during brushing and shovelling. - PPM regimes are followed to ensure fans are maintained in good working order.	All fans are set up and operated in accordance with manufacturers instruction and bird health and welfare requirements. Ongoing internal audits of external areas.

Litter conditions, material and management	- Type of bedding used as both initial placement and top ups. - Methods for distribution of bedding - Litter quality and age	- Dust extracted virgin wood shavings are used as initial bedding and top up/replacement. Products are quality checked at the production plant and routinely audited by internal/external auditing bodies. - The initial bedding is supplied as a bulk delivery, unloaded outside each house and then collected by an automated spreader for even distribution in the poultry houses. - Top up bedding is also from wrapped bales, which are transported into the house before being spread manually. - Litter is regularly topped up, as required to prevent a build up of excessively dry, friable and dusty litter. This is balanced with the need to keep litter in a condition that minimises the generation of odour.	Automatic & Manual spreading of shavings to be in accordance with best practice for dust minimisation and carefully monitored.

Destocking of livestock	- Higher levels of dust release if ventilation is not managed. - Turning over of any litter during machine access and in-house movements generate dust	- Ventilation controls are used to control the release of dust while still maintaining optimum temperature control for the birds and safe working conditions for the staff throughout the depletion process. - Machinery movements are to be kept to a minimum to help reduce bird excitement and the breaking up of any litter. This minimises airborne particles, allowing for consistent air dispersal throughout the ventilation systems.	Use minimum ventilation without compromising health and welfare of staff and livestock.

Clean out (litter removal)	- Creation of dust during clean down - Heaping up and removal of large quantities of litter - Loading lorries/trailers	- The clean out process usually commences within 24hrs of the birds being depleted, so that litter has not had time to dry out excessively. - All internal areas and beneath fan ducts and canopies are blown out using high pressure lances before the litter is removed so that any areas of trapped dust are minimised. Where practically possible, gable end and side wall fans are blown inwards to the building and ventilation flaps are closed to prevent dispersion. - Litter is first scraped into large heaps within the buildings, this minimises loading time and helps make the process more efficient throughout. As this process carries out a lot of hazards for operators working within the buildings, ventilation is required but kept to a minimum required for staff health and safety. - Once all litter is removed the floors are mechanically swept and the ventilation system is closed.	Always monitor for dust release carefully

Wash down/Disinfection	- Fine particles released/distributed whilst using high pressure lances and fan assisted sprayers. - Fine particle generation from fan assisted sprayers	- A process known as “Pre-soaking” is carried out to the dry buildings before high pressure washing commences. In this methodology a low-pressure rinse is carried out to all internal areas of the building allowing any dust deposits to be dampened and allowing heavy debris to “Pre-Soak”. This helps generate a cooler environment under which to apply detergents, allowing for longer detergent “Cling time”. The process improves the breakdown of any fats and heavy staining, which in turn reduces the amount of aerosol effect created from using high pressure. - As disinfectants can be hazardous, all buildings are sealed as best as practically possible before disinfection is carried out. Fan assisted applicators are routinely used to ensure that coverage to all internal areas is maximised. Products are only applied to a point to avoid excessive use. Once the buildings are disinfected, they are left closed, allowing any mist, dust, or vapours to settle/dry off before ventilation is opened to assist drying of large areas. - Only DEFRA approved disinfectant and detergents are used on site and are applied by trained personnel.	

On Farm Monitoring and Continual Improvement

Internal temperature and litter quality are monitored by farm personnel and recorded for each house.

- Complaints and any subsequent actions are to be logged on site.
- Staff members are to receive regular training regarding Environmental Permitting Regulations – which will include dust management and any new company procedures. Training is completed during the induction period for new staff and then refreshed at least on 3 yearly intervals.

Dust Complaints Procedures

Any dust complaints received in direct relation to the complex farms shall be recorded on a farm complaints form (Doc ORPF 010a Odour Complaint Form is used for this purpose). Dust complaints shall be fully investigated and available at future inspections. Complaints received directly from the public will be notified to the Environment Agency.

Investigations shall consider:-

- The activities taking place at the time of the complaint.
- The timing of the complaint.
- The weather conditions at the time of the complaint.
- Any abnormal operations either on site or nearby.
- Any changes that may have been made to a standard operational procedure.
- The receptor and the impact that may have been caused.
- If further abatement techniques would better control/minimise the effects.

Following all investigations into complaints if the issue is caused by an operation at the site a discussion will be had with the Environment Agency and any proactive measures which can be agreed will be implemented to help minimise the impact.

Review

This DMP will be subject to review following any Environment Agency substantiated complaint or every four years whichever is sooner.

Action Plan:

Accumulations of dust may potentially build up around the outside of the poultry houses during the flock period, mostly around the areas of concrete around the fan outlets and side inlets. As a matter of good practice these areas will be swept and cleaned on a flock-to-flock basis (every 7-8 weeks) to remove any build-up of dust residue that may potentially contaminate ground water.

The site manager/deputy shall record all such events if required in the “non-routine” actions section of the site compliance folders for perusal by inspectors from EA, Red Tractor etc.

Details will include date of cleaning process, weather conditions, volume of waste removed, destination of waste and any other matter noted in comments.

Any complaints arising which maybe dust related shall be reported and documented on the **“General Complaint” form ref: ORPF 010c.**