ODOUR MANAGEMENT PLAN
LANGSTONE FARM

Langstone Farm
Catbrook
Monmouthshire
NP16 6ND

Environmental Permit no:
RP3932MF

National Grid Reference:
SO 5050 0280

Issue date	Review date	Review by
18/01/17	18/01/21	Shann Pitts Consulting

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Introduction

This bespoke Odour Management Plan (OMP) has been prepared to support the overall Environmental Management System in place at Langstone Farm. The overriding principle of this OMP is to ensure that all day to day activities are carried in accordance with this document to help minimise the overall environmental impact. There are sensitive receptors within 400m of the installation namely Langstone House which is approximately 200 metres away. This OMP has been prepared as Best Practice.

Installation Background

The installation is approximately 6 acres in size located at National Grid Reference SO50500280. The proposed installation is approximately 500 metres of the village of Broadstone. The nearest sensitive receptor is located approximately 200 metres of the site.

The site consists of a total of 2 timber frame, steel clad poultry houses and 2 steel constructed poultry houses of which will be built in accordance with Best Available Techniques (BAT) using high levels of insulation to reduce energy demand and a state of the art ventilation system to optimise the living conditions for the birds while minimising any possible effects on nearby designated sites/receptors.

The birds are housed from day old chicks and are depopulated (all in all out) around 16 weeks of age.

At the end of the crop all birds are taken off site with the building being dry cleaned by means of compressed air being used to remove dust build up from the building internals and equipment before litter is removed.

A contract is in place with G.E. Hunt and son for all the spent litter which is taken away from the site by sheeted trailers where it will be used as a feed stock to generate power in their Anaerobic Digestion plant.

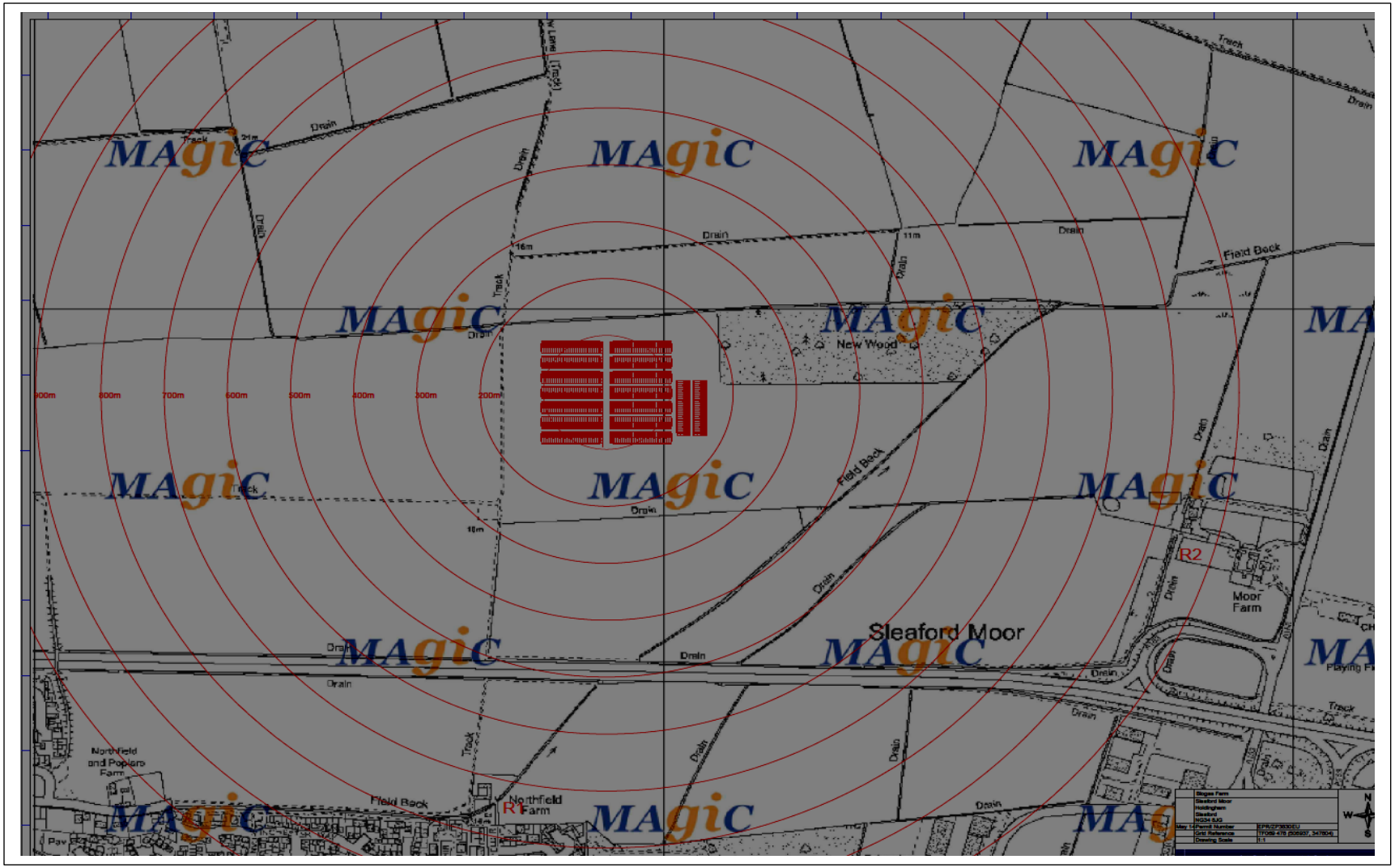
In the event of G. E. Hunt being unable to take the poultry there is a contingency arrangement with up to three other local farmers who are all able to take poultry litter off-site, thus reducing the potential from odours generated by the storage of litter.

Following dry cleaning the buildings are then washed clean using high pressure water which is collected and removed from site again to be blended into the total feed stock at the adjacent AD plant. If, for any reason, this disposal route is not available during the building wash down process equipment is on hand to allow the wash-waters to be spread to agricultural land. Once dry all the building internals are disinfected to point of run, minimising the amount of water to be collected, transported or spread.

On average there are 2.5 crops per annum with a turnaround of 14 days between crops. This gives plenty of time to allow the buildings to dry thoroughly to ensure the best possible conditions for the incoming day old chicks.

Sheds are checked daily for mortalities and any dead birds are immediately removed from the sheds. Numbers are recorded and all carcasses are stored in a refrigerated store prior to weekly collection via the Fallen Stock Scheme (membership no.2002137).

Sensitive receptor Location Plan, ***R1 = Northfields Farm 700m from source R2 = Moor Farm 800m from source***



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The purpose of this Odour Management Plan is to;

- Establish the likely source of odours arising from the permitted activities on the farm
- Set out procedures at the farm in order to mitigate or minimise the risk of odour
- Formalise an effective method of dealing with any odour complaints quickly and efficiently

Potential Odour Sources

The following sources have been identified as contributing to a potential medium - high risk odour source.

- Odour emissions from compound feed selection
- Odour emissions from feed delivery and storage
- Odour emissions from ventilation techniques
- Odour emissions from litter conditions and management
- Odour emissions from carcass storage and disposal
- Odour emissions from fluctuations in bird stocking densities (growth curves)
- Odour emissions from drinking water systems
- Odour emissions from de-stocking (thinning and final depletion)
- Odour emissions from cleanout (litter removal)
- Odour emissions from dirty water generation and storage (washout)
- Odour emissions from litter/ manure
- Odour emissions from carcass storage
- Odour emissions from dust build up

Pathways and Receptors

The pathway for all of the above sources would be via the atmosphere, with the most sensitive receptors being inhabitants of nearby residential dwellings. Both the wind direction and its intensity will significantly influence how receptors are effected.

Odour Management and Control Measures

Odour Related Issue	Potential Risk and Problems	Actions taken to prevent and minimise risk
Manufacture and selection of compound foods	Milling and mixing of compound feeds. Poor quality and odorous ingredients. Feeds which are “unbalanced” in nutrients, leading to increased excretion, litter moisture and higher emissions of ammonia and other odorous compounds,	No on-site milling or mixing. Feed specifications are prepared by the feed compounder’s nutrition specialist. The nutritionist ensures that protein and phosphorous content is reduced as the rations change throughout the flock cycle. Feed is only supplied by a UKASTA 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.
Feed Delivery and storage	Spillages of feed during delivery and storage. Creation of dust during delivery. Avoidance of any pests e.g. mice, rats, meal worms etc.	Feed delivery systems are sealed to minimise atmospheric dust. Cyclone dust catchment systems will be in place on all silos. Any and all spillages are cleaned up immediately. For major spillages over 500kg the feed mill would be notified who will send a vehicle out to clear the feed up and move to another on site silo. This process is carried out within a few hours if the food is still in a condition to be used. For any major spillage greater than 500kg that is unfit for animal consumption the spillage will be cleared up into skips and removed from site for disposal via the appointed waste contractor within 24 hours of the incident. For any minor spillage less than 500kg feed would be cleared up using bags and placed in the onsite general waste container for disposal. Annual condition checks are carried out and documented as detailed in the EMS These checks are made on a daily basis.
Ventilation Techniques	Inadequate air movements within the buildings can lead to high humidity and subsequently high moisture levels within the litter Inadequate control of inlet and fan controls leads to poor dispersal of potential odours	The ventilation system is regularly adjusted either automatically or, if necessary, manually to aid optimum internal environmental conditions, as explained in the EMS. The ventilation system is designed to efficiently control and, when required,

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		remove humidity from within the buildings. Keeping moisture content low in the litter will significantly reduce the odour and production of ammonia. Maintenance schedules are in place and are carried out in line with manufactures recommendation and guidance as stated in the EMS. This is to minimise the risk of any breakdowns during the flock cycle.
Litter Conditions and Management	Odours arising from wet litter and poor management. Spillage of surplus water from drinker systems Disease / Virus outbreaks leading to poorly conditioned birds – excessive dropping leading to higher moisture content within the litter. Overcrowding of available bird space, poor ventilation design and techniques. Building design and quality Choice of absorbent bedding Addition of fresh bedding if capping is likely to occur	Controls on feed and ventilation help maintain litter quality additional controls include; Use of nipple drinkers and drip trays to minimise spillage. Water use monitored as an indicator of both animal health and wellbeing as well as helping identify and potential leaks Use of a veterinary health plan, with specialist veterinary input used as necessary. Stocking density are to be assessed to maintain optimum ventilation levels and to prevent overcrowding, Destocking of buildings may need to be assessed if continual odour complaints are substantiated by National Resources Wales and this is defined to be the root cause. All walls and ceiling voids have been insulated to BAT standards to prevent condensation and cold bridging as detailed in the EMS. Continual Damp Proof Membrane (DPM) laid under the concrete floors to prevent moisture being drawn up from the ground. Should any aspect of the building structure fail a full investigation will be carried to source and rectify any issues as they arise. Chopped Rape straw is used as experience has proved to improve litter quality quickest. 3 routine daily checks are made and any additional bedding needed is made available immediately to reduce likelihood of odour complaint.
Carcass disposal	Inadequate storage of carcasses on site. Carcass collection on a weekly basis.	Carcasses are bagged up, sealed and stored in refrigerated container. Carcasses are removed daily to Woolaston Court Farm and are stored in a temperature controlled container and are collected regularly through the fallen stock scheme.

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Fluctuations in stocking densities depending on growth curves – particularly following any increase from standard	Overcrowding of available bird space. Poor ventilation techniques used for optimum air exchange due to inefficient dispersion. Pressure on saturation point of litter resulting in greater levels in moisture. Increased levels in odour concentration and release than that of a lower growth curve and stocking density.	Stocking density assessments, trials and data collection will need to be carried out to obtain the optimum stocking levels required to minimise the environmental impact of the site on nearby sensitive receptor. Buildings designed with modern ventilation systems to keep litter in optimum conditions. Assessment and monitoring plan to be comprised and approved by National Resources Wales and a third party monitoring company
Management of drinking water systems	Spillages of surplus water from drinker systems	Use of nipple drinkers and drip trays to minimise the risk of spillages and water wastage. System are checked daily and water use monitored and recorded by farm personnel. Any abnormalities are documented and rectified as required.
Destocking of livestock – final depletion	Higher levels of odour release through increased ventilation. Turning over of any damp litter during machine access and in house movements. Prolonged depletion schedules and number being removed at any one time. External areas becoming heavily contaminated during depletion. Doors kept closed as much as possible Position of vehicles ready to be loaded	Ventilation controls to be used to control the release of odours while still maintaining optimum temperature control throughout the depletion process. Machinery movements are to be kept to a minimum to help avoid the churning up of damp / wet litter causing increased odour. If areas are excessively high in moisture area are to be replenished with fresh bedding before depletion takes place. Due to the size off the installation it is in the interest of the site to keep everything moving steady and fluid throughout the depletion process. Any abnormal operations will be documented and discussed with the factory planners to best minimise the impact both on the site and any surrounding receptors. If deemed necessary the local National Resources Wales (NRW) office / site officer will be notified or the out or hours NRW pollution line notified. Doors are kept closed as much as possible to reduce dust or odour releases. Only opened when necessary for getting birds out and for litter to be removed. All vehicles are parked as far away from neighbouring property as possible whilst loading occurs

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Clean out (litter removal)	Creation of dust during clean down	All internal surfaces are blown down using high pressure air lances to remove areas of trapped dust. This technique significantly reduces the amount of dirty water generated. This process is usually carried out within 12 hours of the birds being depleted.
wash down and disinfection	Heaping up and removal of large quantities of potentially high levels of odorous material Loading of lorries / trailers Use of odorous products to disinfect buildings following wash down	Litter is scraped into a large heap running the length of the centre of the buildings, this in turn help aid the drying process and minimises loading time and help make the process more efficient throughout. As this process carries a lot of hazards for operators working within the buildings, ventilation is required at all times to keep the environment clear of dust and ammonia build up. Once all the litter is removed and the floors mechanically swept the ventilation system is the powered down. The process takes approximately 2 hours per building to complete and is usually completed within 2 full days.
	Trailer location	Trailers are located as far as possible from neighbouring property when being loaded. Once trailers are loaded, sheeted down ready to leave site Only DEFRA approved disinfectant and detergents are used on site and are applied by trained personnel, Dilution as carried out as recommended by the supplying companies with full audited support
Dirty Water management	Standing or open stored dirty water during the production cycle or clean-out Removal of dirty water from stores.	Areas around the houses are concreted and kept clean at all times throughout the flock cycle. At clean-out dirt water is stored in sealed underground containment tanks compliant with SSAFO regulations. Dirty water is removed from site using vacuum tankers on a routinely and as needed basis with all removals being documented through transfer notes. The storage tanks are routinely checked fortnightly, before and after wash down or following any prolonged rainfall. The recovery routes are as detailed in the EMS.
Monitoring	Daily checks	A minimum of 3 daily checks are made and recorded such as environment, temperature, litter conditions, odour, noise, feed, water usage, dust, ammonia, humidity. Once daily all exterior areas are checked for spillages or damage.

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Contingencies	Routine abnormalities	All staff have had full training for things such as fire, electricity, gas, water failure and a plan is kept in the farm office. All staff have been adequately trained to deal with high ammonia levels, signs of disease, and litter control. Off-site odours to be assessed and recorded if needed.
	Staff illness	All staff have signed a contract which ensures in an event of illness they will contact another member of staff, or management an hour before they are due to start work to ensure a member of staff is on site at the appropriate time.

On Farm Monitoring and Continual Improvement

- Internal relevant humidity, temperature and littler quality is to be monitored by farm personnel and recorded on each house card daily.
- Weather conditions are monitored and recorded daily, the use of a mobile monitoring station would be introduced should any continual problems / complaints arise.
- Complaints and Subsequent actions are to be logged on site. Individual complaint log to be kept for any complaint received. Actions taken also to be recorded.
- All staff are to receive annual training regarding Environmental Permitting Regulations – which will include odour management and any new company procedures.
- If requested in house ammonia monitoring can be carried out at specific time during the flock cycle to help gauge further background information on odour release.

Odour Complaints Procedures

Any odour complaints received in direct relation to the installation shall be recorded on an odour complaints form. Odour complaints shall be fully investigated and available for inspection at all reasonable times. Complaints received directly from the public will be notified to National Resources Wales as soon as practicable.

Investigations shall take into account,

- The activities taking place at the time of the compliant
- The timing of the compliant
- Stage of the crop cycle
- The weather conditions at the time of the compliant and just prior to 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 an assessment of the likely impact.

Following all investigations into complaints if the cause is identified as being due to an operation at the site the NRW will be notified and a discussion with the NRW will seek out any practical proactive measures. All those which can be agreed with the Regulator will be implemented to help minimise the impact.

Odour Monitoring and reduction plan

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In the event of prolonged substantiated odour complaints, an independent odour assessment shall be carried out in conjunction with the NRW and a third party monitoring company. Monitoring will be undertaken in line with current guidance to identify the root cause / source of the odour and whether odours from the site correlate with specific times within the flock cycle. If normal operations are deemed to be the root cause, and no further reasonable and financially viable mitigation can be implemented to reduce the odour pollution; then an agreed destocking system will be put in place to help reduce the levels of odour to an acceptable level assessed by the NRW to a level below that deemed to cause pollution outside the permitted boundary and be kept at that level until such time as furthers measures can be put in place.

Community Engagement

Contact will be made with the Parish Council to open up lines of communication with the Parish Council and the operator. Updates regarding the site will be provided to the Parish Council as and when required. The predicted dates of crop removal for the coming year will be shared with the local community if necessary to allow planning to take place for outdoor events which may be impacted.

Review

This OMP will be subject to review following any substantiated complaint from the regulator or every four year whichever is sooner.

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