Odour Management Plan for Methwold (Breckland) Farm Poultry Unit

The nature of livestock farming means that preventing odour generation at source is rarely possible as animals are inherently odorous. However, there are many things that can be done, often at low cost, to minimise odour or to prevent it reaching neighbours.

The H1 Environmental Risk Assessment submitted with an application to vary the permit to extend the installation boundary and demolish all existing buildings to erect 20no new houses for rearing poultry identified sources of noise with moderate and minor potential to cause annoyance. Created and updated this odour management plan (OMP) to support the overall environmental management system in place at Methwold (Breckland) Fm. The overriding principle is to ensure day-to-day activities are carried out in accordance with the plan so there is no reasonable cause for annoyance to people outside the installation boundary. Significant pollution outside the boundary is not expected, and operator has no record or recollections of odour concerns or complaints and will continue to foster good relations with neighbours.

Actions and contingency actions in this OMP are best available techniques (BAT) in accordance with Best Available Techniques (BAT) Reference Document 2017, Environment Agency (2010) EPR 6.09 Sector Guidance Note; How to comply – Intensive Farming v2; Appendix 4 Odour management at intensive livestock installations, Environment Agency (2011) Additional guidance for H4 Odour Management: How to comply with your environmental permit (especially for monitoring and responding to complaints), and Environment Agency (2013) Poultry Industry Good Practice Checklist.

Identified sensitive receptors within 400m of the installation boundary from a site walkover and desk top study (excluding 4no. proposed residential dwellings for farm workers at Methwold (Breckland) Fm. The residential dwellings at Feltwell Fm are not owned by the operator or occupied by workers at Airfield, Feltwell or Methwold (Breckland) Fm. The receptors are shown in Table 1 and Figure 1:-

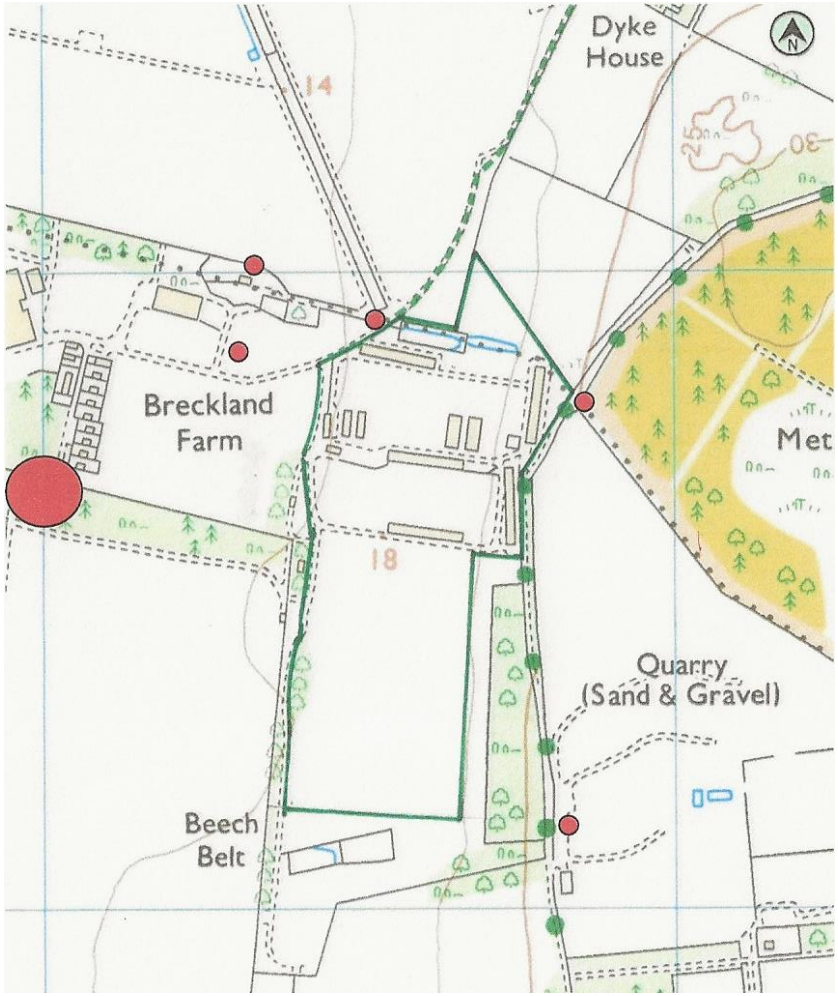
Table 1. Methwold (Breckland) Fm Poultry Unit receptor locations within 400m

Nº.	Receptor	NGR	Direction	Distance from boundary
1	Public right of way - Brandon Road, Methwold, Thetford	TL 73852 92803	N	0m
2	Other public access - Brandon Road, Methwold, Thetford	TL 73558 92926	NE	0m
3	Industrial - Authorised landfill, Lodge Road, Feltwell, Thetford	TL 73806 92068	SW	200m
4	Industrial - Warren Energy Ltd, Brandon Road, Methwold, Thetford, IP26 4RJ	TL73300 92866	W	160m
5	Residential - Brandon Road, Methwold, Thetford, IP26 4RJ	TL 73362 92998	W	150m
6	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73100 92855	W	365m
7	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73090 92833	W	370m

8	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73087 92815	W	375m
9	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73082 92798	W	375m
10	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73079 92778	W	370m
11	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73083 92757	W	355m
12	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73079 92738	W	360m
13	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73075 92719	W	360m
14	Residential - Feltwell Farm, Lodge Road, Feltwell, Thetford, IP26 4DU	TL 73071 92699	W	365m

Distances measured on government website at magic.defra.gov.uk

Fig 1. Methwold (Breckland) Fm Poultry Unit receptor locations within 400m



Wind direction is defined as the direction from which the wind is blowing. According to the Met Office Eastern England climate report - as Atlantic depressions pass by the UK the wind typically starts to blow from the south or south-west, but later comes from the west or north-west as the depression moves away. Directions between south and north-west account for the majority of occasions and the strongest winds nearly always blow from this range. Averaged across the year the prevailing wind direction is from the southwest.

Residential dwellings likely have high sensitivity – reasonably expect enjoyment of a high level of amenity, and where people would reasonably be expected to be present continuously, or at least regularly for extended periods. However, will not be exposed to odour for the majority of occasions.

Industrial premises and public right of way likely have low sensitivity – where the enjoyment of amenity would not reasonably be expected, or there is transient exposure, where the people would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use.

The following table sets out:-

- Likely sources of odour from a typical intensive poultry unit
- Actions taken at Methwold (Breckland) Fm to prevent or minimise odour levels
- Contingency actions to limit exposure to elevated odour emissions beyond the installation boundary.

Table 2. Routine actions and contingency actions to minimise odour and odour risks at Methwold (Breckland) Fm Poultry Unit

odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
Effect of diet	• High protein diet increases nitrogen and sulphur content of the litter • Feeds which are unbalanced in nutrients leading to increased excretion, bedding moisture and higher odour and ammonia emissions to air • Poor quality ingredients	• Professional poultry nutritionist regularly reviews diet for nutrient requirements least cost formulation. • Feed broiler chickens three separate compound diets matching (as closely as possible) nitrogen content to chickens' requirements at each stage of growth. With decreasing crude protein for optimum utilisation and reduce nitrogen excretion. • Synthetic essential amino acids including lysine, methionine, threonine, & valine added to supplement naturally low crude protein in wheat-based diets. • Authorised feed additives to reduce total nitrogen excretion. Xylanase enzyme added during milling to improve feed utilisation by breaking down macro-molecules and antinutritional factors such as non-starch polysaccharides for example cellulose in wheat grains into absorbable nutrients. • Feeds supplied from mills in certification schemes only use approved ingredients. • No feed manufacturing, milling, or mixing on site.	
Odour from feed delivery and storage	• Creation of dust and related odour during delivery • Spillages of feed during delivery storage and subsequent spoilage	• Installed package enclosed silos, pipes, augers and feeding equipment to prevent feed getting wet, minimise dust, & odour. • Feed silos protected from collision damage by careful siting relative to traffic flows - in between the poultry houses to keep them out of the path of HGVs and easily connected for blowing in feed over as short a distance as possible. • Feed delivery vehicles always covered.	Trigger • Feed spillage anytime. Timeframe for implementation • Immediately/same day. Contingency action • Spillage will be cleared up immediately into bags by drivers or stockman and stored in a secure place to prevent dust, & access by pests, for offsite disposal.

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
		• Deliveries monitored by drivers and farm workers and any spillage cleared up immediately. • Stockman inspecting automatic equipment on which chickens depend not less than once per day to check no defects, and any defects repaired immediately. • Maintain a preventive maintenance programme for buildings & equipment with stockman, farm workers, maintenance team or professional contractors in accordance with manufacturer's instructions and keep records.	• Stockman will have to arrange a waste carrier to provide a covered skip same day for a large spillage considered to be too much for packing into bags. • Any feeder defects repaired immediately same day or as soon as possible. Duration of action • Achievable same day. Cessation of action • Spillage cleared up and delivered or secured for offsite disposal.
Odour from problems with housing ventilation systems According to BAT Reference Document - odour from broiler housing increase in offensiveness with moisture content of the litter.	• Inadequate design causing poor dispersion of odour • Inadequate air movement in the house, leading to high humidity and higher litter moisture content • Extraction fans close to receptor locations • Electricity supply disrupted (but outages rarely occur).	• Designed & installed by professional contractors, good, forced ventilation via side inlets and high velocity extraction fans, with outlets on the roof (vents greater than 5.5m high and efflux velocity greater than 7m/s). • Computer controlled ventilation system & regularly adjusted to meet the physiological needs of chickens and remove moisture in all weather and seasonal conditions and keep droppings and litter dry. • Optimising discharge of exhaust air from houses using a combination of techniques to disperse ammonia and odour quickly including maximised outlet heights – exhausting air above roof level through the ridge, and maximised vertical outlet velocity with uncapped outlet cones. • Stockman will be inspecting automatic equipment on which chickens depend not less than once per day to check there are no defects including the ventilation system controls and extraction fans.	Trigger • High/low temperature alarm. Timeframe for implementation • Immediate, same day. Contingency action • In event alarm gives warning of electricity outage or high or low temperatures in houses check the back-up generators started automatically and ventilation fans are working properly. To provide sufficient air changes and temperature to meet chicken's welfare needs and keep litter dry. • Regularly check generators and fuel during use. • Faults with ventilation equipment, sensors, controls, fans, generators to be repaired same day or as soon as possible by stockman, farm workers, maintenance team or a professional contractor. Duration of action • Achievable same day. Cessation of action

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
		• Alarm system gives warning of electricity outage, high/low temperature in houses. • Package generators for automatic back-up if mains electricity is disrupted and inspected daily by stockman for defects including fuel & tested weekly. • Maintain a preventive maintenance programme for buildings & equipment with stockman, farm workers, maintenance team or professional contractors in accordance with manufacturer's instructions and keep records.	• Mains electricity restored • Ventilation, generator faults successfully repaired.
Odour issues with gable end fans used in warmer weather	• Warmer weather, heat waves may be accompanied with high humidity resulting in higher litter moisture content	• Gable end fans to provide tunnel ventilation and/or evaporative cooling units to cool incoming air in warmer weather to be considered in design stage at Methwold Fm. Based on successful results using evaporative cooling units on a poultry farm in Norfolk.	Trigger • Warm weather or a heatwave is forecast, mostly in June, July & August, and near the end of growing periods when chickens are fully feathered. • Met Office definition for UK heat wave is an extended period of hot weather for 3 consecutive days with daily maximum temperatures meeting or exceeding the heat wave temperature threshold of 27^{o}C for Norfolk. Timeframe for implementation • Fans switched on immediately as soon as chickens start exhibiting uncomfortable feeling hot behaviours, e.g., lifting their wings and exposing more of their bodies to get rid of excess heat, and panting. Chickens heat shedding mechanisms become less and less effective, and if the situation isn't controlled, they will die. Contingency action

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
			• The additional tunnel ventilation gets air moving close to the floor and over chickens, so wind chill helps them cope with high temperatures. • Chickens are always nearly fully feathered, never use cooling units while brooding chicks & younger birds, which would be chill stressed. • Gable end fans not directed towards any residential receptors, and external deflectors direct exhaust air & dust on to the ground. • Grass sward under fans helps creates turbulence and increase dust deposition on the ground. <u>Duration of action</u> • Running fans continually day & night during warmer outside temperatures. Chickens can tolerate higher daytime temperatures if the night time temperature drops 14^{o}C or more below daytime highs. During the cool night time chickens can get rid of excess body heat built up during the day. Running fans to move air over the chickens can also help reduce 'effective' night time temperature. So, chickens can start the next day fresh, which helps keep performance up and lessen risk of mortalities if day time temperatures are high again. • Based on a production cycle of approximately 7 weeks, fans might be used at the end of 2 cycles for up to approximately 7 days each or up to 14 days in hottest 3 months each year. • Heatwaves will become more frequent. According to Agency adapting to climate change risk assessment summer daily maximum temperature may be around

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			7°C higher compared to average summer temperature now by 2050, or sooner. <u>Cessation of action</u> • Fans switched off as soon as they are not required, when daytime outside temperature goes down and chickens stop exhibiting uncomfortable feeling hot behaviour. • Fans never used any other time for example when removing litter and washout.
Evaporative cooling units used to cool incoming air in warmer weather	• Heat waves may be accompanied with high humidity resulting in higher litter moisture content	• Evaporative cooling units to cool incoming air and/or gable end fans to provide tunnel ventilation in warmer weather to be considered in design stage at Methwold Fm. Based on successful results using evaporative cooling units on a poultry farm in Norfolk. • Evaporative cooling units installed next to ordinary air inlets on side of houses. Extraction fans on the roof draw warm external air through saturated filter pads and as the water evaporates, energy is lost and significantly reduces the incoming air temperature and the temperature inside the house. • Expect negligible change of humidity inside houses and odour issues using evaporative cooling units in warm weather.	<u>Trigger</u> • Warm weather or a heatwave is forecast, mostly in June, July & August, and near the end of growing periods when chickens are fully feathered. • Met Office definition for UK heat wave is an extended period of hot weather for 3 consecutive days with daily maximum temperatures meeting or exceeding the heat wave temperature threshold of 27°C for Norfolk. <u>Timeframe for implementation</u> • Evaporative cooling units switched on immediately as soon as chickens start exhibiting uncomfortable feeling hot behaviours, e.g., lifting their wings and exposing more of their bodies to get rid of excess heat, and panting. Chickens heat shedding mechanisms become less and less effective, and if the situation isn't controlled, they will die. <u>Contingency action</u> • Evaporative cooling units significantly cool the incoming air and the temperature inside the house.

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			• Chickens are always nearly fully feathered, never use cooling units while brooding chicks & younger birds, which would be chill stressed. Duration of action • Running cooling units continually day & night during warmer outside temperatures. • Based on a production cycle of approximately 7 weeks, cooling units might be used at the end of 2 cycles for up to approximately 7 days each or up to 14 days in hottest 3 months each year. • Heatwaves will become more frequent. According to Agency adapting to climate change risk assessment summer daily maximum temperature may be around 7^{o}C higher compared to average summer temperature now by 2050, or sooner. Cessation of action • Cooling units switched off as soon as they are not required, when daytime outside temperature goes down and chickens stop exhibiting uncomfortable feeling hot behaviour.
Odour from wet litter According to How to comply, the level of odorant emissions	• Building design • Insufficient litter • Poor quality litter • Disease outbreak leading to wet litter	• Concrete floors poured over continuous damp-proof membrane, preventing moisture being drawn up from the ground and insulated walls & ceilings prevent condensation of moisture in the air. • Prior to hatching eggs or chicks arriving new litter material uniformly spread to correct depth over the entire floor area. • Proprietary blend of dust extracted chopped straw/wood shavings or chopped straw to provide	Trigger • Wet litter, abnormal odour Timeframe for implementation • Immediate, same day. Contingency action • Check & repair any leakage from drinking systems • Move any wet litter to dry out or add extra litter • Replenish litter on damp areas before destocking. Duration of action

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
decreases as the quantity of litter per livestock unit is increased - binding nitrogen to reduce odour and ammonia		absorbent bedding. When mixed with droppings binds faeces and nitrogen in a dry mixture to reduce odour and ammonia. • Stockman monitoring litter daily for abnormal odour, wetting, capping. • Maintaining a preventive maintenance programme & record keeping for buildings and equipment with stockman and professional contractors.	• Repairs achievable same day. • Keep checking drinking systems for spills & leaks. • Continue monitoring litter every day and adding extra as required if it isn't drying rapidly or starts capping to prevent it spreading. Cessation of action • Wet litter successfully dried up • Houses destocked.
Odour issues with wet litter & drinking water systems According to the BAT Reference Document, odour from poultry housing increases in offensiveness with moisture content of the litter.	• Design • Operation • Water spillage	• Water provided to chickens via non-leaking nipple drinkers with drip cups to keep litter dry. • Usage monitored daily with meters in every house. • Frequently adjusting drinking lines to bird eye level to avoid spillages, wet litter, and wastage. • Moving, drying wet litter or will continue checking and adding extra litter as required if capping occurs. • Stockman inspecting automatic equipment on which chickens depend not less than once per day to check there are no defects. Including the water lines and for any wet litter next to the lines to detect any leaks. Any defects will be repaired immediately by the stockman or by professional contractors.	Trigger • Obvious wet litter, elevated odour. • High water usage. Timeframe for implementation • Immediate, same day. Contingency action • Check & repair any leakage from drinking systems • Move any wet litter to dry out or add extra litter • Replenish litter on damp areas before destocking. Duration of action • Repairs achievable same day. • Keep checking drinking systems for leaks. • Continue monitoring litter every day and adding extra as required if it isn't drying rapidly or starts capping to prevent it spreading. Cessation of action • Wet litter successfully dried • Houses destocked.

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
Odour issues around destocking	• Releasing more dust and odour result of increased ventilation via extraction fans and open doors • Disturbing any damp litter when fork lift trucks are moving chicken transport modules in & out	• Chickens reared in batches, all-in-all-out for biosecurity. Arrive onsite as incubated eggs or day-old chicks. Reared to around 31 days of age, then start destocking. A quarter will be removed, 'thinned', and transported to a local abattoir and remainder reared on to around 38 days of age. Normally 10 days washing-out & empty between batches so approx. 7.6 batches per annum. Abattoir can slaughter 240,000 chickens per day so could take smaller birds in as little as a single day, but most likely over several days to supply customer's a broader range of weights. Remainder chickens could be taken in as little as 3 days. Expect to be destocking houses not less than 30 days every year. • Replenish litter on any damp area before destocking. • Ventilation controls used to control release of odour while still maintaining optimum temperature for chicken welfare throughout the process. • Reducing catcher's exposure to dust by keeping doors closed and switching on more fans to create the required airflow. Releasing and dispersing dust and odour via the high velocity extraction fans. • Subdued lighting keeps birds calm during catching in a modular transport system to minimise disturbance, airborne dust, and odour. • Keeping machinery movements to a minimum to minimise churning up any damp litter. • Chicken modules will mostly be covered to protect chickens from the weather during transit. Covers	

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		provide some barrier to dust and odour, but the modules will be uncovered in warmer weather. • Keep houses closed and locked after destocking to contain dust and moderately offensive odour.	
Odour issues removing litter According to How to comply – odorous compounds absorbed onto dust particles and particles themselves decompose releasing volatile compounds Generally considered to be dustiest and most odorous activity	• Releasing more dust and odour result of increased ventilation via extraction fans and open doors to take litter out • Loading into trailers • Windy	• Remove litter after destocking occurs 6/7 times every year. Professional contractor uses two teams to empty 3 houses each per day so expect all houses emptied in approx. 4 days. Expect to be removing & loading litter on not less than 28 days every year. • Remove litter as soon as possible, normally within a day of destocking, not normally more than 3 days, for example destock on Friday & cleanout on Monday. • Remove litter in day time 07.00-23.00hrs in working week (Monday to Friday and Saturday morning but exclusive of public & bank holidays), in accordance with How to comply. • Dust build-up around vents, fans, ceiling, and feeding equipment cleared with compressed air, also helps reduce quantity dirty water produced. • Ventilation reduced to a minimum during cleanout. Use shed ventilation to maximum effect to reduce workers dust exposure. Combination of opening or closing shed doors, opening vents for natural air dilution, and switching on ventilation fans to create required airflow during the different stages of litter/manure removal in accordance with HSE guidance. • Removing litter from floor using front end or skid-steer loader to shovel bulk of the litter carefully and directly	Trigger • Removing litter delayed. Timeframe for implementation • Immediate, same day. Contingency action • Keep poultry houses closed & fans switched off. Duration of action • For as long as required, until removing litter started. Cessation of action • Contractor arrives to remove litter.

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
		off the floor into a large heap the length of the house to minimise time spent loading into waiting trailers positioned outside doors to avoid double handling. Doors will be open on to the concrete hard standing areas where the trailers will be parked, not in close proximity to receptors. • Used litter transported in covered trailers and kept covered at all times except during loading • Fans switched off and keep houses closed after removing litter. • Keep checking routine actions to minimise dust being adhered to until work finished. • Export litter offsite for power generation or land-spreading under control of a separate farming business, with a written agreement in place. • No used litter stored on site.	
Odour issues with washout	• Using odorous products to disinfect poultry houses.	• Washout after removing litter occurs 6/7 times every year. Professional contractor uses two teams to wash 3 houses each per day so expect all houses washed in approx. 4 days. Expect washing out on not less than 28 days each year. • Washout houses as soon as possible, normally within one day of destocking, and not normally more than 3 days for example destocking on a Friday and washout on Monday. Washout all the houses in as short a time as possible. • Defra approved disinfectants contain for example formaldehyde and glutaraldehyde which are slightly	Trigger • Washout delayed owing to unforeseen circumstances. Timeframe for implementation • Immediate, same day. Contingency action • Keep poultry houses closed & fans switched off after removing litter to minimise odour release. Duration of action • For as long as required, until washout can be started. Cessation of action • Contractor arrives to washout.

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
		odorous. Used in accordance with manufacturer's instructions by trained workers. • Spent disinfectants in foot dips emptied into the dirty water storage tanks. • Keep poultry houses closed & locked after washout.	
Odour issues with dirty water	• Standing or open stored dirty water during the rearing cycle or washout • Offensive odour from tankers.	• Concrete apron and kerbs installed to direct dirty water into package below ground dirty water storage tanks with capacity for storing all the dirty water from washing out houses, with diverter valves to keep dirty & clean water separate and manholes kept covered. • Professional contractor keeping the concrete apron, dirty water grates and drains clear of litter, etc to avoid backing-up, pooling, or over spilling into surface water drains or on unmade land. Dirty water drains flushed through after washout to prevent stagnation. • Contractor emptying dirty water tanks after washout is finished - avoids anaerobic conditions developing in settled sludge, • Remove dirty water in day time 07.00-23.00hrs in working week (Monday to Friday and Saturday morning but exclusive of public & bank holidays), in accordance with How to comply. • Odour from vacuum tanker during emptying but takes less than an hour. • Dirty water exported offsite spread on land under control of a separate farming business, a written agreement is in place.	Trigger • Dirty or surface water backing up in drains • Diverter valve not reset and dirty water tank overfilled. Timeframe for implementation • Immediate, same day. Contingency action • Reset the diverter valve correctly • Contact contractor to empty the dirty water tank • Washdown the concrete apron and drains. Duration of action • Achievable same day or next day. Cessation of action • Tank emptied and apron and drains washed down.

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Odour issues with poultry carcasses	• Inadequate storage • Stored for a prolonged time	• Dead chickens removed from houses daily. • Store dead-in-shell and non-viable eggs which have been macerated, related dirty wash water from cleaning & disinfecting the macerator, dead chicks & carcasses of dead chickens in bespoke, secure, non-leaking, containers with lids & kept locked. Rent containers from transporter. • Purpose-built chilled storage for carcase containers. • Weekly collections normally adequate, relatively small quantities first few weeks and increasingly more in latter weeks. • Removed by approved transporter under the National Fallen Stock scheme. • Exchange with clean & disinfected containers so no cleaning onsite. • Monitoring store, containers & sniff-testing every day.	Trigger • Refrigeration failure in store. • Extraordinary offensive odour in store. • Badly fitting lids or damaged, leaking containers. • Higher mortality in a heat wave or disease. • Attracting lots of flies. Timeframe for implementation • Immediate, same day. Contingency action • Contact maintenance team/ professional refrigeration engineer to repair. • Contact transporter for more frequent exchange of containers starting same day, next day, or arrange for a refrigerated trailer. • Cover badly fitting lids with any available plastic bags, film to minimise odour, flies. • Clean and disinfect any leakage inside or outside. Duration of action • Achievable in 1 or 2 days. • More frequent collections for as long as required. Cessation of action • Refrigeration system successfully repaired. • Carcases removed offsite and odour minimised.
Bio-security issues	• Disease and increased mortality, and more carcases although significant	• Health plan with professional veterinary input. • Staff are well managed, supervised and appropriately trained and qualified, including holiday cover, part-time, and temporary staff. • Systematic inspection of all the chickens each day.	Trigger • Extraordinary wet litter. • Extraordinary increase of odour inside house. • Unexpected increase in chicken morbidity or mortality. Timeframe for implementation • Immediate, same day.

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	disease outbreaks in commercial poultry flocks are rare • Increase droppings, higher moisture content in litter and odour		Contingency action • Investigate with management. • Treatment with medication maybe required. • Obtain veterinary assistance as quickly as required. Duration of action • Continue monitoring, investigation, treatment, and veterinary assistance for as long as required. Cessation of action • Litter quality, odour improved inside houses. • Morbidity and mortality return to normal levels.
Odour issues with waste Packaging, domestic waste, disposables, sweepings etc.	• Storage • Management	• Stored in secure, non-leaking containers & regularly removed by a registered waste carrier. Frequency of collections can be increased anytime.	
Monitoring	• Monitoring odour levels daily at source can help identify any increase in level with time so remedial action can be taken.	• Farm Manager responsible for site tour every day including perimeter, sniff-testing for any abnormal elevated odour levels with potential to cause annoyance offsite. • Farmworkers accustomed to odour through exposure may not be able to detect or judge intensity of odour offsite. People who have not recently been working on the farm might be more helpful. Anyone with a cold, sinusitis, or a sore throat will likely underestimate the odour. Strong food or drinks, including coffee to be	Trigger • Extraordinary or particularly offensive odour offsite. Timeframe for implementation • Immediate, same day. Contingency action • Check routine and contingency actions to minimise odour and risks are being adhered to. • Tell anyone likely to be seriously affected, what has been done or still needs to be done to reduce any extraordinary odour and duration with timescales.

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odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
		avoided for at least half an hour before sniff testing and avoid strongly scented toiletries and deodorisers in vehicles, etc. • Environmental Manager at Crown Chicken Ltd monitoring odour levels, sniff-testing and recording after complaint, until abnormal elevated odour levels minimised, back to normal.	• Continue checking at perimeter, sniff-testing until odour reduced back to normal. • Weather stations are inexpensive & easy to install for 24/7 monitoring & investigating complaints, if required. Duration of action • Normally achievable same day, next day. Cessation of action • Odour reduced, back to normal onsite and offsite. • Record events and actions in farm diary.
Complaint	• Wind direction exposing receptors to odour • Odour sensitivity likely to increase in warm weather when people want to enjoy their gardens and have windows open more. • Slow response • Elevated level of annoyance.	• Farm Manager, Environmental Manager responsible for investigating any complaint reported by Agency, local authority, or the public. • Investigate if alleged odour can be substantiated. Even if no longer apparent investigation must still be carried out and recorded same day. Establish:- • Time event occurred, duration, description of odour. • Activities taking place onsite at time of complaint. • Any odorous activities taking place offsite in vicinity. • Check actions, contingency actions being adhered to and any change to standard operating procedure. • Record details of investigation and action taken on odour complaint report. A copy must be sent to the Agricultural Director immediately and must be retained onsite & available for future reference, or inspection with Agency. • Notify Agency, local authority, complainant, anyone else likely to be seriously affected, same day as soon as possible result of investigation and corrective action or what still needs to be done with timescales.	Trigger • Complaint reported on Saturday or Sunday by email from Agency, local authority, not considered likely from anywhere else. Timeframe for implementation • As soon as possible on opening email. Contingency action • Investigate if alleged odour can be substantiated. Even if no longer apparent investigation must still be carried out and recorded same day, next day. • Continue odour monitoring. Duration of action • Investigation likely achievable same day, next day. Cessation of action • Notify Agency, local authority, complainant, anyone else likely to be seriously affected, same day as soon as possible result of investigation and corrective action or what still needs to be done with timescales.

Table 2. Routine actions and contingency actions to minimise odour and odour risks at Methwold (Breckland) Fm Poultry Unit

odour related issue	Potential risks and problems	Routine actions to minimise odour and odour risks	Contingency actions to minimise odour and odour risks
Management plan review	• New odour issues, actions & contingency actions.	• Environmental Manager responsible for review annually. Updated sooner where a substantiated complaint results in making changes to related issues change in operating procedures, or any routine and contingency actions.	

Change history	Date	Name
Last updated	31 May 2024	[redacted]
Last review	26 May 2023	
Next review	-	12 months from date of bringing poultry houses into use
31/05/24 Added a reference to the dwelling houses at Feltwell Fm are not owned by the operator or occupied by workers at Airfield, Feltwell or Methwold (Breckland) Fm. Corrected the post codes for all the dwelling houses at Feltwell Fm. 26/05/23 Created for rearing poultry at Methwold (Breckland) Fm in accordance with How to comply.		

Odour Complaint Report

Time and date of complaint	
Name and address of complainant	
Telephone number of complainants	

Date of odour	
Time of odour	
Location of odour, if not at above address	
Weather conditions *(Dry, rain. fog, snow)*	
Temperature *(Very warm, warm, mild, cold or degrees if known)*	
Wind strength *(None, light, steady, strong, gusting)*	
Wind direction *(e.g., from SW)*	
Complainant's description of odour What does it smell like? Odour intensity 0 No odour 1 Very faint odour 2 Faint odour 3 Distinct odour 4 Strong odour 5 Very strong odour 6 Extremely strong odour	
○ Duration (time)	
○ Constant or intermittent in this period	
○ Does the complainant have any other comments about the odour?	
Are there any other complaints relating to the installation, or to that location (either previously or relating to the same exposure):	
Any other relevant information:	
Do you accept that odour likely to be from your activities?	
What was happening on site at the time the odour occurred?	
Actions taken	

Complainant visited		
Complainant contacted with explanation Yes/No Date By whom		
Form completed by	Date:	Signed:

Environment Agency (2011); Additional guidance for H4 Odour Management: How to comply with your environmental permit.