

Environmental Risk Assessment for Friars Farm

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
1. Poultry production (for the complete production & cleaning cycle)	Ammonia	Humans	Adverse effect on air quality and health (LT)	+	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017: - - Forced ventilation & a non-leaking drinking system (in case of solid floor with deep litter). - Reduce crude protein content using a nitrogen balanced diet based on the energy needs and digestible amino acids. - Multiphase feeding with a diet formulation adapted to the specific requirements of the production period. Provide chickens a minimum of three separate diets which contain increasingly lower crude protein. - Addition of controlled amounts of essential amino acids. Highly digestible amino acid analogues lysine, methionine, threonine, and valine added in milling compound feedstuffs to supplement otherwise low naturally occurring levels in wheat grains. - Designated sites for nature conservation within 5km – Fritton Common Site of Special Scientific Interest (SSSI), Pulham Market Big Wood SSSI, Forngett Meadows SSSI, The Grove Ancient Woodland. No International or European sites within 5km. - Computer modelling predicted process contributions to ammonia concentrations and nitrogen deposition rates would be below the Environment Agency lower/upper level of 100% of the Critical Level/Load at The Grove AW. Plus, process contributions would be reduced at all receptors, significantly so in the case of the closer wildlife sites result of the redevelopment of Friars Farm from rearing ducks to broilers. AS Modelling & Data; A Report on the Modelling of the Dispersion and Deposition of Ammonia from the Existing Duck Rearing Houses and the Proposed Broiler Chicken Rearing Houses at Friars Farm; 28th April 2026.
		Plants	Direct toxic effects (ST)	++	
		Land	Nutrient enrichment of soils (e.g., hyper-eutrophication and acidification) (LT)	++	
		Land	Changes to sensitive ecosystems (LT)	++	

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
	Dust	Humans	Adverse effect on air quality and health (LT)	++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017: -
		Humans	Nuisance (ST)	++	- Residential dwelling houses, agricultural premises and a public right of way (footpath) within 100m of the installation boundary will be sensitive receptors. - Created a dust & bio-aerosol management plan with routine actions to minimise dust and bio-aerosols from sources onsite, and contingency actions and a complaints investigation and reporting procedure if required.
		Plants	Covers leaves, inhibits photosynthesis (ST)	++	
	Noise	Humans	Nuisance (ST)	++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017: - - Residential dwelling houses, agricultural premises, a place of worship and public rights of way (footpaths) within 400m of the installation boundary will be sensitive receptors. - Created a noise management plan with routine actions to minimise noise from sources onsite, contingency actions and a complaints investigation and reporting procedure if required.
	Odour	Humans	Nuisance (ST)	++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017: -
					Residential dwelling houses, agricultural premises, a place of worship and public rights of way (footpaths) within 400m of the installation boundary will be sensitive receptors.

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
					Created an odour management plan with routine actions to minimise odour from sources onsite, contingency actions and a complaints investigation and reporting procedure if required.
	Pests	Humans	Nuisance caused by vermin and flies (ST)	+	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010: - - Macerated eggs, & carcasses stored in secure, non-leaking, containers & kept covered. - Removed weekly by an approved transporter under the National Fallen Stock scheme. Weekly collections considered to be adequate to avoid attracting flies. - Collections can be increased anytime e.g. in warm weather or in event of higher mortality. - Exchange filled containers for clean & disinfected containers. - Planned pest control with professional contractors licensed to use pest control products.
	Dirty water	Land	Nutrient enrichment of soils (LT)	++	Measures are described in EPR 6.09 SGN; How to comply; Version2, 2010: - - Concrete apron & kerbs channel dirty water into package, below ground storage tanks. - Dirty water storage tanks encased in concrete with capacity for all the dirty water. Come with diverter valves to keep dirty and clean water separate. - Farmworkers and cleaners keep roadways, areas around buildings, dirty water grates and drains clear of litter, etc to avoid backing-up, pooling, or overspilling into surface water drains or on unmade land. - Professional contractors empty the dirty water tanks after cleaning, avoids anaerobic conditions developing in settled sludge.
		Water	Nutrient enrichment in watercourses (ST)	++	
		Water	Changes to sensitive ecosystems (LT)	++	

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
	Zoonoses & notifiable diseases	Humans & livestock	Human and livestock health implications (ST)	++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017, and DEFRA (2018) Code of practice for the welfare of meat chickens and meat breeding chickens, updated January 2024: - • Farmworkers who are responsible for care of chickens at any point in time, including holiday cover, part-time & temporary workers will be appropriately trained and qualified. • Use a Health Plan with professional veterinary input as required. • Maintain the bio-security precautions. • Signage warning people against unauthorised entry. • Clean protective clothing for farmworkers and visitors. • DEFRA approved disinfectants for boot dips and cleaning houses. • Daily livestock inspections by farmworkers. • Dead chickens must be removed from poultry houses daily. • Dirty water from washing & disinfecting the macerator must be stored with the macerated eggs, & carcasses in secure, non-leaking, containers & kept covered. Not to be allowed into any drains or dirty water tanks and never to be spread on land. Collected under the National Fallen Stock Scheme.

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
2. Water fogging for cooling to reduce mortality in warm weather	Dust	Humans	Adverse effect on air quality and health (LT)	+	Measures are described in Best Available Techniques (BAT) Reference Document; 2017: - - Residential dwelling houses, agricultural premises and a public right of way (footpath) within 100m of the installation boundary will be sensitive receptors. - Dust emission reduction is achieved.
		Humans	Nuisance (ST)	+	
		Plants	Covers leaves, inhibits photosynthesis (ST)	+	
	Noise	Humans	Nuisance (ST)	++	- Residential dwelling houses, agricultural premises, a place of worship and public rights of way (footpaths) within 400m of the installation boundary will be sensitive receptors. - Machinery onsite ordinarily not considered probable cause of annoyance. - Fogging equipment inc. electric pumps is low noise, installed indoors.
	Odour	Humans	Nuisance (ST)	++	Measures are described in Best Available Techniques (BAT) Reference Document; 2017: - - Residential dwelling houses, agricultural premises, a place of worship and public rights of way (footpaths) within 400m of the installation boundary will be sensitive receptors. - Odour emission reduction is possible by limiting the dispersion of dust particles to which odorous compounds are attached and by lowering indoor temperatures. - Switch on when outside temperature is approx. 27°C (tbc) in June, July and August including during heat waves (Met Office definition for a 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), and/or:- - Switch on when chickens start exhibiting uncomfortable feeling hot behaviours e.g., lifting their wings to expose more of their bodies to get rid of excess heat, and panting.

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
					- Operate in cooling mode day and night while outside temperature is 28°C or higher. - Switch off as soon as outside temperature goes down less than 28°C and chickens have stopped feeling hot behaviours. At the end of the rearing period, when nitrogen excretion is significant excessive fogging can provoke high ammonia and odour emissions. - Odour from poultry housing increases in offensiveness with moisture content of the litter. - Routine and contingency actions to minimise odour and odour risks from wet litter are described in the Odour Management Plan for Friars Farm. - By 2050 or sooner, depends on rate of climate change, might be used in cooling mode for the equivalent of two whole batches of chickens, in use for up to 38 days each batch and up to 72 days in warmest 3 months each year.
3. Storage facilities	Fuel, disinfectant, and other chemicals (e.g., due to spills or leakage)	Water Land	Contamination of surface & groundwater with consequential effects on animals (ST) Contamination of land (MT)	+++ +++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and DEFRA (2018) Code of practice for the welfare of meat chickens and meat breeding chickens, updated 25 January 2024: - - Emergency back-up generator with separate bunded fuel tank & regularly check level. - Automatic equipment on which chickens depend inspected by farm workers not less than once per day to check there are no defects, any defects to be repaired immediately. - Disinfectants, pesticides & veterinary medicines stored in dry, frost-free, fire-resistant stores, kept secure against unauthorised use and capable of retaining any spillage. - Package footbaths used to avoid overflowing. - Spent disinfectant from footbaths emptied into dirty water tank. - Implement the accident management plan including using spill kit equipment if disinfectant poses risk of entering any surface or groundwater.

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
					Planned preventive maintenance for buildings & equipment by operators or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.
	Health risks due to contact with stored materials, inhalation, etc.	Humans	Human health issues (ST)	++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010: - - Manufacturer's safety data sheets for materials kept onsite. - Measures set out in the accident management plan. - Planned preventive maintenance for buildings & equipment by operators or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.
4. Surface water drainage system	Fuel, disinfectant & other chemicals (e.g., spills result of unauthorised persons, tampering, vandalism, stealing).	Inland drains & Hempnall Beck tributary of the River Yare	Contamination of surface water (MT) Contamination of land & groundwater (MT)	+++ +++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010: - - Perimeter fence & gates & no public access through any part of the site. - Poultry houses & stores will be securely locked at night. - Fuel oil tanks & LPG tanks will be secure & locked. - Keep a list of the substances that would harm the environment if they were to escape including in the raw materials inventory. - Relatively small inventory and quantities of potentially polluting substances stored onsite at any time including fuel oil for back-up generator & disinfectants, etc. - Environment Agency must be notified immediately of any spillage into unmade land and risk of entering into groundwater in accordance with conditions in the permit.

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
	Fire & firefighting water	Inland drains & Hempnall Beck tributary of the River Yare	Contamination of surface water (MT) Contamination of land & groundwater (MT)	++ ++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010: - • Maintain general fire precautions at all times, in accordance with company fire safety procedures & training and farmworkers checking the precautions every day. • Store incompatible materials apart. • Limit size of stockpiles of combustible materials & surround them with fire breaks. • Not storing materials alongside the site boundary. • Store contaminated firewater onsite, where practicable e.g. in the underground dirty water storage tanks for offsite disposal. • Mandatory risk assessments & recommendations provided for buildings & precautions by professional contractors & insurer.
5. Surface water (flash flooding) happens when rainwater cannot drain away through normal drainage systems.	Carcasses, litter, dirty water, fuel, disinfectant boot dips etc	Inland drains & Hempnall Beck tributary of the River Yare	Contamination of surface floodwater (ST) Contamination of land & groundwater (MT)	+ +	• Yearly chance of surface water flooding is very low staying at very low between 2040 and 2060 with climate change according to advice the government website. • Medium chance in between poultry houses 2-5 and high chance between 2040 and 2060 with climate change according to advice on the government website. • Relatively small inventory and quantities of potentially polluting substances stored onsite at any time including fuel oil for back-up generator & disinfectants, etc.

Source of emission	Emission (e.g., ammonia, dust, run-off, spillage, noise, odour)	Receptor (e.g., air, water, land, humans, plants)	Description of impact and duration of impact i.e., short term (ST), medium term (MT) or long term (LT)	Significance of negative impacts Major +++ Moderate ++ Minor + Nil 0	Mitigation / management measures for this emission
6. Ground water flooding caused by unusually high groundwater levels when the water table rises above the ground surface or within underground structures	Litter, dirty water, fuel, disinfectant boot dips etc	Inland drains & Hempnall Beck tributary of the River Yare	Contamination of surface floodwater (ST) Contamination of land & groundwater (MT)	+ +	Risk of groundwater flooding is low and outside of a groundwater flood alert area according to advice on the government website.
7. Rivers and sea flooding in low lying areas close to rivers or the sea	Carcasses, litter, dirty water, fuel, disinfectant boot dips etc	Inland drains & Hempnall Beck tributary of the River Yare	Contamination of river and seawater (ST) Contamination of land & groundwater (MT)	+ +	Installation located in Flood Zone 1. Present day chance of flooding from rivers and the sea is very low staying at very low between 2036 and 2069 with climate change according to advice on the government website.