H1 Environmental Risk Assessment Falcons Hall Farm Poultry Unit

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	Air	Aerial deposition and direct toxic effect on trees (ST)	+++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017:- • Feed specifications prepared & continually monitored by nutrition specialists. • Feed composition closely matched to chicken's nutritional requirements using a minimum of two nitrogen balanced diets to reduce crude protein for rearing of breeding stock between hatching and point of lay. • Authorised feed additives used to lower crude protein by adding essential amino acid supplements & non-starch polysaccharide enzymes and phytase to improve otherwise poorly digestible feed components & reduce nitrogen excretion into the litter. • Forced ventilation via side inlets and high velocity extraction fans, with outlets on roofs. • Optimising discharge conditions of exhaust air from all the poultry houses using a combination of techniques described to reduce ammonia emissions - maximised outlet heights – exhausting air above roof level through the ridge, and maximised vertical outlet velocity - designed with uncapped outlet cones. • Ventilation computer controlled to remove moisture under all weather & seasonal conditions while meeting the physiological needs of chickens and help keep droppings and litter dry and friable. • Environment Agency revised ammonia screening assessment dated 08/11/2022 (email) predicted process contribution of ammonia would be less than 50% of the critical limit at Westhall Wood and Meadow Site of Special Scientific Interest (SSSI). However, there are other farms that could act-in combination therefore detailed modelling is required. • Report on the detailed modelling dated 24/11/2022 predicted the process contribution to annual mean ammonia and nitrogen deposition rates from the existing and proposed poultry houses would be well below the Environment Agency's lower threshold percentage
		Land	Nutrient enrichment of soils (e.g., hyper-eutrophication and acidification) (LT)	++	
		Plants	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
					(20% for a SSSI) of the relevant Critical Level or Critical Load at Westhall Wood and Meadow SSSI.
	Dust	Humans	Nuisance (ST) Contributor to odour (ST)	+	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017:-
			Human health (LT)	+	• Dust and bio-aerosol sensitive receptors - a residential dwelling, and commercial premises within 100m of the boundary. • Dust and bio-aerosol management plan in place, with mitigation & contingency actions but no additional receptors result of extending the boundary to erect 4no additional poultry houses.
		Plants	Covers leaves, inhibits photosynthesis (ST)	++	
		Land	Nutrient enrichment of soils (LT)	++	
		Water	Nutrient enrichment of water courses (MT)	++	
		Air	Adverse effect on air quality (ST)	+	

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
	Dirty water (e.g., due to run-off during or after clean-out)	Land Water	Nutrient enrichment of soils (LT) Nutrient enrichment of water courses (ST)	+++ ++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:- • Concrete apron and kerbs channel dirty water into a packaging storage tank. • Underground, concrete encased package dirty water tank installed with capacity for storing all the dirty water, comes with diverter valve to keep dirty & clean water separate. • Stockman and cleaning contractors keeping roadways, areas around buildings, 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. • Professional contractors emptying the dirty water tanks after cleaning finished in readiness for the next time and taken off-site. Collections can be increased anytime. • Maintaining an inspection and preventive maintenance programme with record keeping for buildings and equipment with stockman & professional contractors.
	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:- • Noise sensitive receptor - commercial premises within 400m of the boundary. • Noise management plan in place, with mitigation & contingency actions but no additional receptors result of extending the boundary to erect 4no additional poultry houses.
	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:- • Odour sensitive receptor - commercial premises within 400m of the boundary. • Odour management plan in place, with mitigation & contingency actions but no additional receptors result of extending the boundary to erect 4no additional poultry houses.

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:- • Stockman who are responsible for the care of chickens at any point in time, including holiday cover, part-time and temporary workers will be appropriately trained & qualified. • Using a Health Plan with professional veterinary input as required. • Maintaining the bio-security precautions. • Signage warning people against unauthorised entry. • DEFRA approved disinfectants used for cleaning houses and boot dips. • Clean protective clothing for stockman and visitors. • Daily livestock inspections by stockman.
	Feed (e.g., due to spillage from bins	Land Water	Nutrient enrichment of soils (LT) Nutrient enrichment of water courses (MT)	+ +++	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:- • Package enclosed feed delivery systems installed (silos, pipes, augers, etc) minimising spillages & dust. • Feed silos protected from collision damage by careful siting relative to traffic flows - in between poultry houses keeping them out of the path of HGVs & easily connected to lorries blowing in feed over as short a distance as possible. • Deliveries monitored by drivers & stockman and any spillage cleared up immediately. • Automatic equipment on which chickens depend will be inspected by the stockman not less than once per day to check there are no defects, and any defects will be repaired immediately.

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
					• Maintaining an inspection and preventive maintenance programme with record keeping for buildings and equipment with stockman & professional contractors. In addition, at Falcons Hall Farm Poultry Unit: • Package cyclone dust separators on silos to catch dust during pneumatic feed delivery.
	Pests	Humans	Nuisance caused by vermin and flies (ST)	+	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010;- • Dead chickens removed daily from poultry houses by the stockman. • Carcasses stored in secure, non-leaking, containers and kept covered. • Containers removed weekly by an approved transporter under the National Fallen Stock scheme. Weekly collections are normally considered adequate to avoid attracting vermin and flies but can be increased anytime, for example in warmer weather or in event of higher mortality as result of disease. • Transporter exchanging clean and disinfected containers for the filled ones, so no cleaning or disinfecting of containers on site. • Scheduled programme of pest control with professional contractors licensed to use pest control products, or stockman or other workers will be trained to maintain pest control arrangements.
2. Use of vehicles onsite	Feed, used litter or dirty water (e.g., due to spillage from vehicles)	Land Water	Nutrient enrichment of soils (LT) Nutrient enrichment of water courses (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:- • Feed silos protected from collision damage by careful siting relative to traffic flows - in between poultry houses keeping them out of the path of HGVs and easily connected to lorries blowing in feed over as short a distance as possible.

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
					• Deliveries monitored by drivers & stockman; any spillage cleared up immediately. • Removing litter from the floor, using a front end or skid-steer loader to shovel the bulk of the litter carefully & directly off the floor into waiting trailers positioned outside the doors to avoid double handling outside & tipping from minimal height. • Vehicles/ trailers will be kept covered unless loading. • Concrete apron and kerbs channel dirty water into a package storage tank. • Stockman and cleaning contractors keeping roadways, areas around buildings, dirty water grates and drains clear of litter, etc to avoid backing-up, pooling, or over spilling into surface water drains or on to unmade land. • Maintaining an inspection and preventive maintenance programme with record keeping for buildings and equipment with stockman & professional contractors.
	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:- • Noise sensitive receptor - commercial premises within 400m of the boundary. • Noise management plan in place, with mitigation & contingency actions but no additional receptors result of extending the boundary to erect 4no additional poultry houses.
	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:- • Odour sensitive receptor - commercial premises within 400m of the boundary. • Odour management plan in place, with mitigation & contingency actions but no additional receptors result of extending the boundary to erect 4no additional poultry houses.

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
3. Storage facilities	Dirty water (e.g., due to overflow or leakage from underground storage tanks)	Land Water	Nutrient enrichment of soils (LT) Contamination of surface and groundwater (MT)	++ +++	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010;- • Concrete apron and kerbs channel dirty water into package storage tanks. • Underground, concrete encased package dirty water storage tanks installed with capacity for all the dirty water, comes with diverter valve to keep dirty and clean water separate and manholes will be kept covered. • Stockman and cleaning contractors keeping roadways, areas around buildings, dirty water grates and drains clear of litter, etc to avoid backing-up, pooling, or over spilling into surface water drains or on to unmade land. • Professional contractors emptying dirty water tanks after cleaning finished in readiness for next time and taken off-site - avoids anaerobic conditions developing in the settled sludge. Emptying can be arranged anytime if any of the tanks are overfilled for example where a diverter valve was not reset and resulting in a tank being filled with rainwater, to stop dirty water backing up and over spilling on to the concrete apron during washing. If any dirty water backs up and overspills the tank will be emptied within 24 hours and the concrete apron and drains cleaned & disinfected same day to prevent odour. • Maintaining an inspection and preventive maintenance programme with record keeping for buildings and equipment with stockman & professional contractors.
	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 Best Available Techniques (BAT) Reference Document; 2017 and DEFRA; 2018 Code of practice for the welfare of meat chickens and meat breeding chickens:- • Concrete apron & kerbs channel spillages into package storage tanks. • Package back-up generators fuel levels will be checked for use/ signs of leaks.

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
					• Automatic equipment on which chickens depend must be inspected by stockman not less than once per day to check there are no defects and any 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 to be used to avoid overflowing. • Spent disinfectant from footbaths emptied into dirty water tank. • Implementing the accident management plan if fuel oil or disinfectant poses risk of entering any surface or groundwater, including using spill kit equipment. • Maintaining an inspection and preventive maintenance programme with record keeping for buildings and equipment with stockman and professional contractors.
	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 on site. • Measures set out in the Environmental Accident Management Plan. • Maintaining an inspection and preventive maintenance programme with record keeping for buildings and equipment with stockman & professional contractors.
Surface water drainage system	Fire & firefighting water	Watercourse a tributary of Little Ouse, a main river Land	Contamination of water (ST) Contamination of land (MT)	Moderate Minor	• Maintaining general fire precautions at all times - in accordance with company fire safety procedures & training, including fire extinguishers, provision of designated areas for smoking, soring incompatible materials apart, limiting the size of stockpiles of combustible materials & surround them with fire breaks, not storing materials alongside the site boundary & workers checking precautions during the day. Regular mandatory risk assessments & recommendations for buildings & precautions by professional contractors & insurers.

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
					• Contaminated firewater might be diverted & stored onsite in underground dirty water storage tanks for offsite disposal.
Surface water drainage system	Fuel, disinfectant, and other chemicals (e.g., spillage result of unauthorised persons, tampering, vandalism, stealing).	Watercourse a tributary of Little Ouse, a main river Land	Contamination of water (ST) Contamination of land (MT)	Moderate Minor	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. • Relatively small quantity of polluting substances stored onsite at any time including fuel oil for the back-up generator & disinfectants, etc. • Any spillage & discharge into the watercourse must be reported immediately to the Environment Agency. .

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
Surface water (Flash flooding) According to Environment Agency Long Term Flood Risk Map there is low risk between 0.1% & 1% chance of flooding each year.	Dirty litter, dirty water	Natural watercourse tributary of Little Ouse, main river Land	Contamination of water (ST) Contamination of land (ST)	Minor Minor	Predicted extent of surface water flooding from the natural watercourse and ditch to be expected in the northeast corner of the site in relation to houses C1,C2,C3&C4 and will affect the access and access roadway. The poultry houses have been planned and erected outside of the predicted extent of flooding.
River flooding According to Environment Agency Flood Map for Planning there is very low risk less than 0.1% chance of flooding each year.	Dirty litter, dirty water	Watercourse a tributary of Little Ouse, a main river Land	Contamination of water (ST) Contamination of land (ST)	Minor Minor	The site is located in Flood Risk Zone 1 with very low risk of flooding from rivers and the sea.