

## Environmental Risk Assessment Great Westwick 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	Humans	Adverse effect on air quality and health (LT)	+	<p>Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017:-</p> <ul style="list-style-type: none"> <li>Forced ventilation &amp; a non-leaking drinking system (in case of solid floor with deep litter).</li> <li>Forced drying system of litter using indoor air. At Great Westwick Fm Poultry Unit heat exchanger on every house for ventilation and energy efficiency. Fans inside houses recirculate warm air from the ceiling down to floor level and spread it over eggs and chicks. Keeps the surface of the litter dry and reduces ammonia and odour.</li> <li>Reduce crude protein content using a nitrogen balanced diet based on the energy needs and digestible amino acids.</li> <li>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.</li> <li>Addition of controlled amounts of essential amino acids. Highly digestible amino acid analogues lysine, methionine, threonine, and valine added in milling to supplement otherwise low naturally occurring levels in wheat grains.</li> <li>International and European sites for nature conservation within 5km are sensitive receptors for ammonia – Foulness (Mid-Essex Coast Phase 3) Ramsar, Foulness (Mid-Essex Coast Phase 5) Ramsar, Foulness (Mid-Essex Coast Phase 3) Special Protection Area (SPA), Foulness (Mid-Essex Coast Phase 5) SPA, Essex Estuaries Special Area of Conservation, Crouch &amp; Roach Estuaries Site of Special Scientific Interest (SSSI), Goldsands Road Pit SSSI (Geological feature).</li> </ul>
		Plants	Direct toxic effects (ST)	+	
		Land	Nutrient enrichment of soils (e.g., hyper-eutrophication and acidification) (LT)	+	
		Land	Changes to sensitive ecosystems (LT)	+	

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					<ul style="list-style-type: none"> <li>Environment Agency advised detailed ammonia modelling not required to apply to vary permit for change of use to broilers from pullets in Ammonia Screening Assessment email dated 13<sup>th</sup> November 2024. Concluded ammonia emissions will be the same under the new proposed broiler scenario when compared with the existing pullet scenario. Submitted with the application.</li> </ul>
	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)	++	<ul style="list-style-type: none"> <li>Dwelling houses for farmworkers are sensitive receptors within 100m of the boundary.</li> <li>Created &amp; updated a separate dust &amp; bio-aerosol management plan with actions and contingency actions to minimise emissions.</li> </ul>
		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:- <ul style="list-style-type: none"> <li>Sensitive receptors within 400m of the boundary include dwelling houses (excluding dwellings for farmworkers) and agricultural premises.</li> <li>Created &amp; updated a separate noise management plan with actions and contingency actions to minimise emissions.</li> </ul>
	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:-

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					<ul style="list-style-type: none"> <li>Sensitive receptors within 400m of the boundary include dwelling houses (excluding dwellings for farmworkers) and agricultural premises.</li> <li>Created &amp; updated a separate odour management plan with actions and contingency actions to minimise emissions.</li> </ul>
	Pests	Humans	Nuisance caused by vermin and flies (ST)	+	<p>Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-</p> <ul style="list-style-type: none"> <li>Macerated eggs, &amp; carcasses stored in secure, non-leaking, containers &amp; kept covered.</li> <li>Containers removed weekly by an approved transporter under the National Fallen Stock scheme. Weekly collections considered to be adequate to avoid attracting flies.</li> <li>Collection can be increased anytime e.g. in warm weather or in event of higher mortality.</li> <li>Exchange filled containers for clean &amp; disinfected containers.</li> <li>Planned pest control with professional contractors licensed to use pest control products.</li> </ul>
	Dirty water	Land	Nutrient enrichment of soils (LT)	+	<p>Measures are described in EPR 6.09 SGN; How to comply; Version2, 2010:-</p> <ul style="list-style-type: none"> <li>Concrete apron &amp; kerbs channel dirty water into package, below ground storage tanks.</li> <li>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.</li> <li>Farmworkers and cleaners keep 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.</li> <li>Professional contractors empty dirty water tanks after cleaning and avoids anaerobic conditions developing in the settled sludge.</li> </ul>
		Water	Nutrient enrichment in watercourses (ST)	++	
		Water	Changes to sensitive ecosystems (LT)	++	

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					<ul style="list-style-type: none"> <li>Frequency of emptying can be increased anytime e.g. where a diverter valve was not reset and tank filled with rainwater.</li> <li>Planned preventive maintenance for buildings &amp; equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.</li> </ul>
	Feed spillage	Land  Water	Nutrient enrichment of soils (LT)  Nutrient enrichment of water courses (MT)	+  ++	<p>Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017, and DEFRA Code of practice for the welfare of meat chickens and meat breeding chickens, updated January 2024:-</p> <ul style="list-style-type: none"> <li>Feed stored in package silos and delivered into houses with package augers and pipes.</li> <li>Silos &amp; feed delivery equipment protected from collision damage from reversing vehicles by careful siting relative to traffic flows in between and at the sides of the houses and with kerbs or barriers.</li> <li>Feed delivered direct from suppliers and blown directly into the silos.</li> <li>Deliveries monitored by drivers &amp; farmworkers and any spillage cleared up immediately.</li> <li>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.</li> <li>Planned preventive maintenance for buildings &amp; equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.</li> </ul>
	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

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					<p>practice for the welfare of meat chickens and meat breeding chickens, updated January 2024:-</p> <ul style="list-style-type: none"> <li>• Farmworkers who are responsible for care of chickens at any point in time, including holiday cover, part-time &amp; temporary workers will be appropriately trained and qualified.</li> <li>• Use a Health Plan with professional veterinary input as required.</li> <li>• Maintain the bio-security precautions.</li> <li>• Signage warning people against unauthorised entry.</li> <li>• Clean protective clothing for farmworkers and visitors.</li> <li>• DEFRA approved disinfectants for boot dips and cleaning houses.</li> <li>• Daily livestock inspections by farmworkers.</li> <li>• Dead chickens must be removed from poultry houses daily.</li> <li>• Dirty water from washing &amp; disinfecting the macerator must be stored with the macerated eggs, &amp; carcasses in secure, non-leaking, containers &amp; 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.</li> </ul>
2. Vehicles	Noise	Humans	Nuisance (ST)	++	<p>Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010 and Best Available Techniques (BAT) Reference Document; 2017:-</p> <ul style="list-style-type: none"> <li>• Sensitive receptors within 400m of the boundary include dwelling houses (excluding dwellings for farmworkers) and agricultural premises.</li> <li>• Created &amp; updated a separate noise management plan with actions and contingency actions to minimise emissions.</li> </ul>

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3. Storage facilities	Fuel, disinfectant, and other chemicals (e.g., due to spills or leakage)	Water	Contamination of surface & groundwater with consequential effects on animals (ST)	+++	<p>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:-</p> <ul style="list-style-type: none"> <li>Concrete apron &amp; kerbs channel spillages into below ground package storage tanks.</li> <li>Emergency back-up generator with separate bunded fuel tank &amp; regularly check level.</li> <li>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.</li> <li>Disinfectants, pesticides &amp; veterinary medicines stored in dry, frost-free, fire-resistant stores, kept secure against unauthorised use and capable of retaining any spillage.</li> <li>Package footbaths to be used to avoid overflowing.</li> <li>Spent disinfectant from footbaths emptied into dirty water tanks.</li> <li>Implement the accident management plan including using spill kit equipment if disinfectant poses risk of entering any surface or groundwater,.</li> <li>Planned preventive maintenance for buildings &amp; equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.</li> </ul>
		Land	Contamination of land (MT)	+++	
	Health risks due to contact with stored materials, inhalation, etc.	Humans	Human health issues (ST)	+	<p>Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-</p> <ul style="list-style-type: none"> <li>Manufacturer's safety data sheets for materials kept onsite.</li> <li>Measures set out in the accident management plan.</li> <li>Planned preventive maintenance for buildings &amp; equipment by company engineers or professional contractors in accordance with any manufacturer's instructions and keeping records of the work.</li> </ul>

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4. Surface water drainage system	Fuel, disinfectant & other chemicals (e.g., spills result of unauthorised persons, tampering, vandalism, stealing).	River Crouch waterbody	Contamination of surface water (MT)  Contamination of land & groundwater (MT)	Moderate  Minor	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-  <ul style="list-style-type: none"> <li>Perimeter fence &amp; gates &amp; no public access through any part of the site.</li> <li>Poultry houses &amp; stores will be securely locked at night.</li> <li>Fuel oil tanks &amp; LPG tanks will be secure &amp; locked.</li> <li>Keep a list of the substances that would harm the environment if they were to escape including in the raw materials inventory.</li> <li>Relatively small inventory and quantities of potentially polluting substances stored onsite at any time including fuel oil for back-up generator &amp; disinfectants, etc.</li> <li>Environment Agency must be notified immediately of any spillage that could reach the offsite ditch or on to unmade land in accordance with the procedure in the permit.</li> </ul>
	Fire & firefighting water	River Crouch waterbody	Contamination of surface water (MT)  Contamination of land & groundwater (MT)	Moderate  Minor	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-  <ul style="list-style-type: none"> <li>Maintain general fire precautions at all times, in accordance with company fire safety procedures &amp; training and farmworkers checking the precautions every day.</li> <li>Store incompatible materials apart.</li> <li>Limit size of stockpiles of combustible materials &amp; surround them with fire breaks.</li> <li>Not storing materials alongside the site boundary.</li> <li>Store contaminated firewater onsite, where practicable e.g. in the underground dirty water storage tanks for offsite disposal.</li> <li>Mandatory risk assessments &amp; recommendations provided for buildings &amp; precautions by professional contractors &amp; insurers.</li> </ul>

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5. Rivers and sea flooding	Dead birds, litter, dirty water, fuel, disinfectant boot dips etc	River Crouch waterbody	Contamination of river and seawater (ST)  Contamination of land & groundwater (MT)	Minor  Minor	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-  <ul style="list-style-type: none"> <li>Great Westwick Farm Poultry Unit is located in flood risk zone 3.</li> <li>Yearly chance of rivers and sea flooding at Great Westwick Farm Poultry Unit is High staying at High between 2036 to 2069 on the government website.</li> <li>More than 3.3% chance of a flood each year.</li> <li>Sign up to get flood warnings by phone, text or email.</li> <li>Read about how to prepare yourself and your property for flooding.</li> <li>Create a Business flood plan including a notification to the Environment Agency.</li> <li>Available at <a href="http://www.gov.uk">www.gov.uk</a>.</li> </ul>
6. Surface water (flash flooding)	Dead birds, litter, dirty water, fuel, disinfectant boot dips etc	River Crouch waterbody	Contamination of surface floodwater (ST)  Contamination of land & groundwater (MT)	Minor  Minor	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-  <ul style="list-style-type: none"> <li>Yearly chance of surface water flooding at Great Westwick Farm Poultry Unit is Very Low staying at Very Low between 2040 to 2060 on the government website.</li> <li>Less than 0.1% chance of a flood each year.</li> <li>Read about how to prepare yourself and your property for flooding.</li> <li>Create a Business flood plan including a notification to the Environment Agency.</li> <li>Available at <a href="http://www.gov.uk">www.gov.uk</a>.</li> </ul>
7. Ground water flooding	Litter, dirty water, fuel, disinfectant boot dips etc	River Crouch waterbody	Contamination of surface floodwater (ST)	Minor  Minor	Measures are described in EPR 6.09 SGN; How to comply; Version2; 2010:-  <ul style="list-style-type: none"> <li>Flooding from groundwater is unlikely at Great Westwick Farm Poultry Unit on the government website.</li> </ul>



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			Contamination of land & groundwater (MT)		