Habitats Directive: Form for recording likely significant effect (Stage 2)	 Cyfoeth Naturiol Cymru Natural Resources Wales

For information

Part A Permitting officer to complete this section in consultation with Conservation/Ecology section and Natural Resources Wales (NRW)	
Type of permission/activity:	New bespoke environmental permit.
Natural Resources Wales reference no:	EPR/PP3533RC/A001
National grid reference:	SJ 308844 227065
Site description:	This is an application for a new intensive poultry rearing site from Greenway Poultry Limited.

Brief description of proposal:	Application for an environmental permit for a farm stocking either 230,000 broiler chickens, 50,000 female turkeys or 28,000 male turkeys (only 1 type of bird will be grown at a time). Birds will be raised for the production of meat in six poultry houses with a capacity of 40,000 bird places each. The site is operated solely for the production of poultry meat. Day old chicks are introduced into the poultry sheds bedded with wood shavings or straw and grown until a maximum of 43 days old. Day old turkey poults are grown until 38 – 42 days and moved to a grow-out farm. The birds are then removed for processing and the sheds emptied of litter, washed and disinfected ready for the next crop. Litter is removed immediately from the site by trailers to the main farm for land spreading. The farm has a manure management plan in place. Wash water is collected in underground storage tanks and spread on to the land in accordance with DEFRA code of good practice (WATER). Feed is stored on-site in sealed steel bins in order to retain dust, odour and spillage. Clean water from the surface of the yards and roofs of poultry houses 1, 2 & 3 will be routed to an off-site stream located approximately 30m from the Northern side of the installation boundary. Clean water from the surface of the yards and roofs of poultry houses 4, 5 & 6 will be routed to an attenuation pond to the north and then on to the stream. Temperature and humidity inside the houses will be controlled using high velocity extraction fans which will be located on the ridges of the poultry houses. Fan speed will be automatically adjusted to maintain optimum ambient conditions within the houses. Additional ventilation is provided in the form of gable-end fans which will be used high temperature periods.
European site name(s) and status:	**Brecon Beacons – SAC UK0030096** **Drostre Bank – SAC UK0012878** **Llangorse Lake – SAC UK0012985** **River Usk – SAC UK 0013007** **River Wye – SAC UK0012642** **Usk Bat Sites – SAC UK0014784**

List of interest features (relevant to this type of permission):	**Brecon Beacons – SAC UK0030096** **1.9 Upland** **Drostre Bank – SAC UK0012878** **1.1 Fens & Wet Habitats** **Llangorse Lake – SAC UK0012985** **1.5 Standing waters (not sensitive to acidification)** **River Usk – SAC UK 0013007** **2.5 Anadromous fish** **2.6 Non-migratory fish & Invertebrates of rivers** **2.9 Mammals of riverine habitats** **River Wye – SAC UK0012642** **1.3 Riverine habitats and running waters** **2.5 Anadromous fish** **2.6 Non-migratory fish & Invertebrates of rivers** **2.9 Mammals of riverine habitats** **Usk Bat Sites – SAC UK0014784** **2.8 Mammals of wooded habitats**
Is this application necessary to manage the site for nature conservation?	No.

What potential hazards are likely to affect the interest features (relevant to this type of permission?

Sensitive interest feature:	**Potential hazard:**	**Potential exposure to hazard and mechanism of effect/impact if known:**

1.1 Fens & Wet Habitats	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Changes in salinity regime	No mechanism for effect
	Changes in thermal regime	No mechanism for effect
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Smothering	No mechanism for effect
	Turbidity	No mechanism for effect
	Siltation	No mechanism for effect
1.3 Riverine habitats and running waters	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Acidification	**Mechanism for effect**
	Changes in thermal regime	No mechanism for effect
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Smothering	No mechanism for effect
	Turbidity	No mechanism for effect
	Siltation	No mechanism for effect
1.5 Standing waters (not sensitive to acidification)	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Changes in salinity regime	No mechanism for effect
	Changes in thermal regime	No mechanism for effect
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Turbidity	No mechanism for effect
	Siltation	No mechanism for effect
1.9 Upland	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Acidification	**Mechanism for effect**
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Smothering	No mechanism for effect
2.5 Anadromous fish	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Acidification	**Mechanism for effect**
	Changes in salinity regime	No mechanism for effect
	Changes in thermal regime	No mechanism for effect
	Habitat loss	No mechanism for effect

	Physical damage	No mechanism for effect
	Turbidity	No mechanism for effect
	Siltation	No mechanism for effect
	Entrapment	No mechanism for effect
2.6 Non-migratory fish and invertebrates of rivers	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Acidification	**Mechanism for effect**
	Changes in salinity regime	No mechanism for effect
	Changes in thermal regime	No mechanism for effect
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Smothering	No mechanism for effect
	Turbidity	No mechanism for effect
	Siltation	No mechanism for effect
	Entrapment	No mechanism for effect
2.9 Mammals of riverine habitats	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Acidification	**Mechanism for effect**
	Changes in salinity regime	No mechanism for effect
	Changes in thermal regime	No mechanism for effect
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Entrapment	No mechanism for effect
	Disturbance (noise)	No mechanism for effect
2.8 Mammals of wooded habitats	*Toxic contamination*	**Mechanism for effect**
	Nutrient enrichment	**Mechanism for effect**
	Acidification	**Mechanism for effect**
	Habitat loss	No mechanism for effect
	Physical damage	No mechanism for effect
	Smothering	No mechanism for effect
	Disturbance (noise)	No mechanism for effect

Is the potential scale or magnitude of any effect likely to be significant?

Alone?	**Brecon Beacons – SAC UK0030096 – NO** **Drostre Bank – SAC UK0012878 – NO** **Llangorse Lake – SAC UK0012985 – NO** **River Usk – SAC UK 0013007 – NO** **River Wye – SAC UK0012642 – NO** **Usk Bat Sites – SAC UK0014784 – NO** The approximate distances from the installation to the relevant European sites are: **Brecon Beacons – 8.7km** **Drostre Bank – 4.5km** **Llangorse Lake – 4.3km** **River Usk – 1.0 – 9.0km (aquatic habitat, not vulnerable to aerial ammonia deposition)** **River Wye – 6.2km (aquatic habitat, not vulnerable to aerial ammonia deposition)** **Usk Bat Sites – 6.9km** **<u>Ammonia Screening Assessment</u>** The applicant has submitted an ammonia screening report with the application which gives a conservative estimate of the rate of ammonia production from the proposed installation based on its type and design. This report was based on a proposal to stock 230,000 broiler chickens or 28,000 male turkeys or 50,000 female turkeys. The grid reference used for the screening assessment is SJ 308844 227065. With regard to type, design and set-up of the installation, the assessment incorporates the following elements: • Birds stocked are broilers or male turkeys or female turkeys; • Fan ventilated fully littered floor; • Non-leaking drinkers; • Roof fan ventilation (vents greater than 5.5m high and fan efflux velocity greater than 7m/s); • Gable-end fan ventilation (used only in hot weather periods in the summer months); and The River Wye and River Usk are aquatic environments and therefore not affected by aerial ammonia deposition – therefore they have been screened out of the assessment. The background ammonia concentration (annual mean) in the area around Greenway Farm and the wildlife sites is 1.16 µg-NH_3/m_3. The background nitrogen deposition rate to woodland is 31.78 kg-N/ha/y and to short vegetation is 22.54 kg-N/ha/y. The background acid deposition rate to woodland is 2.48 keq/ha/y and to short vegetation is 1.81keq/ha/y. The source of these background figures is the Air Pollution Information System (APIS).

	<u>Comparison against Critical Levels</u> For intensive farms, the critical level for ammonia is 1 µg/m^3 for sites with sensitive lichens and bryophytes, and 3 µg/m^3 for higher plants and general vegetation. The ammonia screening assessment uses the more stringent 1 µg/m^3 critical level for all sites which therefore represents a conservative approach. **28,000 Male Turkeys** Submitted modelling results (no depletion) indicate that there is an exceedance of the NH_3 screening threshold of the 1g.m-3 critical level at two SAC sites (Llangorse Lake and River Usk). Subsequent modelling at these locations with deposition depletion of the plume indicated that predicted ground level NH_3 concentrations did not exceed the upper threshold at these locations. Exceedance of the screening thresholds for NH_3 may occur at receptors located within the River Usk and Llangorse lake SACs. However, following a review of species present in the SAC designated species lists, no lichen or bryophyte species were found to be present. Therefore, comparison with the critical level for higher plants of 3g.m-3 can be considered protective. Comparison against the critical level for higher plants indicates exceedance of the NH_3 screening threshold values at Llangorse Lake SAC of 5%. However the upper threshold at the SAC was not exceeded. The River Usk is primarily an aquatic SAC and therefore not affected by aerial Ammonia deposition. **50,000 Female Turkeys** Submitted modelling results (no depletion) indicate that there is an exceedance of the NH_3 screening threshold of the 1g.m-3 critical level at Llangorse Lake SAC. Subsequent modelling at this locations with deposition depletion of the plume indicated that predicted ground level NH_3 concentrations did not exceed the upper threshold. Exceedance of the NH_3 screening thresholds may occur at receptors located within the River Usk and Llangorse lake SACs. As no lichen or bryophyte species are present, comparison with the critical level for higher plants of 3g.m-3 can still be considered protective. Comparison against the critical level for higher plants indicates exceedance of the NH_3 screening threshold values Llangorse Lake SAC of 6%. The upper threshold at the SAC was not exceeded. The River Usk is primarily an aquatic SAC and therefore not affected by aerial Ammonia deposition.

	230,000 Broilers Submitted modelling results (no depletion) indicate that there is an exceedance of the screening threshold of the 1g.m-3 critical level at the River Usk and Llangorse lake SACs. Subsequent modelling at these locations with deposition depletion of the plume indicated that predicted ground level NH_3 concentrations did not exceed the upper threshold at these locations. The review of the ammonia modelling carried out by AS Modelling & Data Ltd for Greenway Farm indicated that exceedance of the screening thresholds of the 1g.m-3 critical level may occur at the River Usk and Llangorse lake SACs. As no lichen or bryophyte species are present, comparison with the critical level for higher plants of 3g.m-3 indicates exceedance of the screening threshold values is unlikely. The River Usk is primarily an aquatic SAC and therefore not affected by aerial Ammonia deposition. AQMRAT's review of the NH_3 modelling carried out by AS Modelling & Data Ltd for Greenway Farm indicated that the predicted long term PC of NH_3 is not likely to exceed the critical level for the protection of vegetation and ecosystems of 1g.m-3 at any receptor for 230,000 broilers. However, the 1g.m-3 critical level was exceeded for both 50,000 female and 28,000 male turkeys. Subsequent check modelling for N deposition with depletion indicated that PCs were unlikely to exceed the minimum critical load for broadleaved deciduous woodland of 10 kg N.ha-1.yr-1 at all modelled receptors. AQMRAT check modelling for NH_3 indicates predicted PCs are generally lower than submitted values at the majority of receptors. No predicted PCs exceed the relevant critical levels or loads at any receptors.
In combination with other Natural Resources Wales permissions, plans or projects?	No.
In combination with permissions, plans or projects with competent authorities?	As a result of this risk assessment, Natural Resources Wales can conclude that: i) **No Likely Significant Effect** - this application could act in combination with permissions and/or plans/projects of other competent authorities, consultation has been undertaken and our conclusion is as follows

Conclusion: **Is there likely to be a significant effect 'alone and/or in combination' on a European site?**	We have assessed the impact of emissions of ammonia on European sites within the 10km screening radius of the proposed site and have concluded that they are insignificant. Consequently we are satisfied that the proposed site will have no significant effect on the European sites within 10km of the proposed installation.	
NRW Officer:	Saul White	**Date: 04/03/2016**
NRW conservation/ecology comment on assessment:	For Information Only	
NRW conservation/ecology Officer:		
If there is a likely significant effect, an appropriate assessment will be required (see part B for suggested scope).		

Part B Suggested scope of the NRW appropriate assessment:

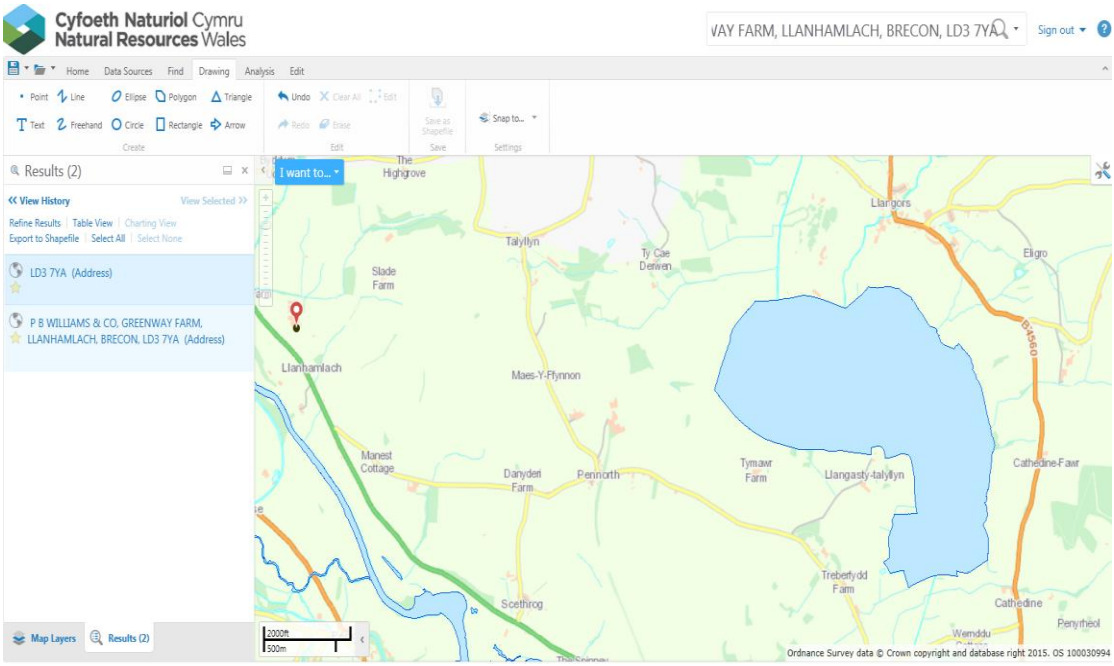
Add details to following framework

- Other competent authorities involved
- Characterise the site in relation to the qualifying features and their conservation objectives;
  - existing information
  - additional surveys
  - management/unauthorised impacts
- Detailed description of plan/project
- Assess each likely impact on the interest features;
  - compare with historical data
  - predict impacts
  - compare with impact from management/unauthorised activities
- Determine the extent to which each possible impact can be avoided.

NRW conservation/ecology comment on scope of NRW appropriate assessment:		
NRW conservation/ecology officer:		**Date:**

Site Location Plans

The installation is shown by the red marker.



Area Map showing nearest SAC's

