



Ammonia Screening Results



DEVELOPMENT: Erection of a free range egg production unit including silos and associated works

LOCATION: Land near Wind Turbine Track
Cerrigydrudion
Corwen
Conwy
LL21 0SE

CLIENT: Mr E Morris

Roger Parry & Partners LLP
The Estates Office, 20 Salop Road, Oswestry, Shropshire, SY11 2NU
Tel: 01691655334 Fax: 01691 657798
Email: richard@rogerparry.net

*Also at: 1 Berriew Street, Welshpool, Powys, SY21 7SQ
Tel: 01938 554499 Fax: 01938 554462
email: welshpool@rogerparry.net*

*Also at: Hogstow Hall, Minsterley, Shrewsbury, SY5 0HZ
Tel: 01743 791336 Fax: 01743 792770
email: mail@rogerparry.net*

April 2018



The Estates Office,
20 Salop Road
Oswestry
Shropshire
SY11 2NU

Phone 01691 655334

mail@rogerparry.net
www.rogerparry.net

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Introduction

It is proposed to erect a free range egg production unit with silos and associated works at Land near Wind Turbine Track, Cerrigydrudion to accommodate a maximum of 32,000 birds.

The purpose of this report is to explain and examine if the proposed development will have any impact on the ecological interest of the area. Particular note is given to the levels of ammonia which shall arise from the proposed poultry unit.

Location

The proposed development is located on the outskirts of Cerrigydrudion.

Environmental Sites

Within a 10km radius of the application site, there are 14 environmental sites, ranging from 1.2km to 9.5km away from the proposed site.

	Region	Site Name	Site Code	Designation Status	Distance from Installation (m)	Sensitive Habitats
1.	Wales	Corsydd Nug a Merddwr	5829	SSSI	1203	Sensitive Habitat
2.	Wales	Mynydd Hiraethog	6584	SSSI	3301	Sensitive Habitat
3.	Wales	Migneint-Arenig-Dduallt	UK0030205	SAC	3598	Sensitive Habitat
4.	Wales	Migneint-Arenig-Dduallt	UK9013131	SPA	3598	Sensitive Habitat
5.	Wales	Migneint-Arenig-Dduallt	5842	SSSI	3598	Sensitive Habitat
6.	Wales	Plas Iolyn Bog	6047	SSSI	4871	Sensitive Habitat
7.	Wales	River Dee and Bala Lake / afon Dyfrdwy a Llyn Tegid	UK0030252	SAC	7172	Sensitive Habitat
8.	Wales	Afon Dyfrdwy (River Dee)	5260	SSSI	7173	Sensitive Habitat
9.	Wales	Y Glyn-Diffwys	5996	SSSI	7318	Sensitive Habitat
10.	Wales	Coedydd Dyffryn Alwen	5955	SSSI	7394	Sensitive Habitat
11.	Wales	Afon Conwy Pastures	5890	SSSI	7663	Sensitive Habitat



12.	Wales	Cefn Rofft	4800	SSSI	8112	Sensitive Habitat
13.	Wales	Cae'R Felin	5562	SSSI	8502	Sensitive Habitat
14.	Wales	Eidda Pastures	6274	SSSI	9560	Sensitive Habitat



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Shropshire
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SCAIL Modelling – Assessment of Ammonia

The SCAIL calculation stands for a Simply Calculation of Atmospheric Impact Limits. It is a screening tool for assessing the impact from agricultural sources on semi-natural areas such as SSSI's. The SCAIL model was developed from the Integrated Pollution Prevention and Control (IPPC) Directive which requires permits for pig and poultry systems with more than a certain number of livestock. It is noted that for poultry units the IPPC directive only applies to poultry units with more than 40,000 places. The SCAIL model provides a worse case scenario to the impact of such developments.

The Environment Agency provide detailed guidance regarding Ammonia, Nitrogen and Background levels together with sources, critical loads and levels from farming operations within their document "H1 Environmental Risk Assessment for Permits, Annex B – Intensive Farming" December 2011 (ERA H1).

ERA H1 Section 7.4.3 states that

"An emission is insignificant where PC process contribution is <4% of Critical Levels for SACs, SPAs and Ramsars, <20% for SSSIs and <50% for local and national nature reserves, ancient woodland and local wildlife sites".

As well as housing the birds, the application of manure to the land can have an impact on designated sites. The application proposed will see manure taken from the building every 10 days and spread on the available farm land in accordance with the Codes of Good Agricultural and Environmental Condition and Cross Compliance Regulations.

Manure will be:

- Spread in suitable weather conditions
- At least 10 metres away from any water course
- Incorporated into the ground within a maximum of 24 hours after application.



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20 Salop Road
Oswestry
Shropshire
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[Scail Home](#) | [User Guide](#) | [SCAIL-Agriculture Report](#) | [Regulator Contact Details](#) | [Contact Us](#) | [Online Tutorial](#)

We have made a number of improvements to the SCAIL for agriculture tool. We have added cattle as a livestock option to cover their emissions. These are set out for housing, landspreading, manure/slurry storage, grazing and outdoor yards. Users can also add their own emissions. The layout should be simpler to use with larger font and input boxes. If you experience any issues then please [Contact Us](#)

Simple Calculation of Atmospheric Impact Limits from Agricultural Sources (SCAIL-Agriculture) is a screening tool for assessing the impact from pig and poultry farms on human health and on semi-natural areas like SSSIs and SACs. The model provides an estimate of the amount of acidity and nitrogen deposited from a farm as well as predictions of air concentrations of odour and PM10. These values can then be used to assess whether impact limits for human health or habitats are exceeded or not.

Information regarding the use of SCAIL-Agriculture as a screening tool and instructions for completing the assessment form are provided in the SCAIL-Agriculture User Guide. The User Guide also contains background information on regulatory requirements for the use of SCAIL-Agriculture, including instances where further detailed modelling of emissions will be required. **The relevant regulatory authority should be consulted for guidance regarding assessment requirements for planning and permitting purposes.**

[LOAD INPUT DATA](#)

Project Details	
Project Notes	Land near Wind Turbine Track
Project Run Mode	<input checked="" type="radio"/> Conservative Met <input type="radio"/> Realistic Met
Location Details	
Select Country	Wales
Installation Details	
Installation	1
Installation Name	Land near Wind Turbine T1
Installation Location	292748,348397 <input type="checkbox"/> Landranger <input checked="" type="checkbox"/> x,y CHOOSE/VERIFY LOCATION
Source Details	
Source	1 <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Source	<input type="checkbox"/> Pig <input checked="" type="checkbox"/> Poultry <input type="checkbox"/> Cattle <input type="checkbox"/> User defined emissions
New or Existing Source	New
Source Name	Land near Wind Turbine T1
Source Location	Provides a link to GoogleMaps to check the location. 292748,348397 <input type="checkbox"/> Landranger <input checked="" type="checkbox"/> x,y VERIFY LOCATION
Source Type	Housing
Type	Barn and free range
Details	Aviary system
Livestock Number	32000
Housing Floor Area	2800 m ²
Naturally Vented	<input type="checkbox"/>
Building Height	5.4 m
Fan Location	Roof
No. of Fans (optional)	12

<http://www.scail.oh.ac.uk/col-bin/agriculture/inout.pl>

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Oswestry
Shropshire
SY11 2NU

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Fan Diameter	1.040	m
Fan Flowrate	5.09	m ³ /s

Pollutant	Source Emissions	Running total of all emission sources	Units
NH ₃	2560	2560	(kg)
PM ₁₀	1056	1056	(kg)
Odour	1412812800	1412812800	(kDu)

DESIGNATED SITE DETAILS

Search Radius: 10 km

NO. OF DESIGNATED SITES: 14 found

Site No.	Name	Distance(km)	Designation	Easting	Northing
1	Corsydd Nig a Merddwr	1.203	SSSI	292759	349600
2	Nynydd Hiraethog	3.301	SSSI	291957	351601
3	Migneint-Arenig-Dduallt	3.598	SSSI	289759	346392
4	Migneint-Arenig-Dduallt	3.598	SAC	289759	346392
5	Migneint-Arenig-Dduallt	3.598	SPA	289759	346392
6	Plas Iolyn Bog	4.871	SSSI	288202	350147
7	River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid	7.172	SAC	290925	341461
8	Afon Dyfrdwy (River Dee)	7.173	SSSI	290923	341460
9	Y Glyn-Diffwys	7.318	SSSI	298915	344458
10	Coedydd Dyffryn Alwen	7.394	SSSI	300100	347612
11	Afon Conwy Pastures	7.663	SSSI	285219	349828
12	Cefn Rofft	8.112	SSSI	300755	349693
13	Cae'r Felin	8.502	SSSI	284249	348606
14	Eidda Pastures	9.56	SSSI	283410	350449

User specified site

Select Add site

Site Name

Site Location

Landranger x,y

VERIFY LOCATION

Habitat within site

please select...

CHECK BACKGROUND LEVELS

HUMAN HEALTH RECEPTOR DETAILS

Receptor

Select Add Receptor

PM₁₀ percentile Annual Average

Receptor Name

Receptor Location

Landranger x,y

VERIFY LOCATION

CHECK BACKGROUND PM10 LEVELS

SAVE INPUT DATA CLEAR FORM CALCULATE

Cors Nug a Merddwr SSSI 1.2km (Grid Ref: 292759, 349600)

Site Code: 5829
 Designation Status: SSSI
 Distance from Installation (m): 1203
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H ⁺ /ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.08	0.4	0.027	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H ⁺ /ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.08	0.42	0.028	-	-
Background concentration at receptor edge	1.12	23.10	2.03 (N:1.65 S:0.38)	-	-
	1.2	23.52	2.06	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Bogs	maxN: 0.93 maxS: 0.56 minN: 0.37 Acid grassland	-	-
% of relevant standard PC	Lower: 8% Upper: 3%	8%	3%	-	-
% of relevant standard PEC	Lower: 120% Upper: 40%	470%	222%	-	-
EXCEEDANCE	Lower: 0.20 Upper: No exceedance	18.52	1.13	-	-



The Estates Office,
 20 Salop Road
 Oswestry
 Shropshire
 SY11 2NU

Phone 01691 655334

mail@rogerparry.net
www.rogerparry.net

Offices also at Minsterley

Mynydd Hiraethog SSSI 3.3km (Grid Ref: 291957, 351601)

Site Code: 6584
 Designation Status: SSSI
 Distance from Installation (m): 3301
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.02	0.09	0.006	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.02	0.10	0.007	-	-
Background concentration at receptor edge	0.87	21.14	1.88 (N:1.51 S:0.37)	-	-
	0.89	21.24	1.89	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	3.0 Standing open water - oligotrophic	maxN: 0.75 maxS: 0.43 minN: 0.32 Bogs	-	-
% of relevant standard PC	Lower: 2% Upper: 1%	3%	1%	-	-
% of relevant standard PEC	Lower: 89% Upper: 30%	708%	252%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	18.24	1.14	-	-



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 Oswestry
 Shropshire
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Migneint-Arenig-Dduallt SSSI 3.5km (Grid Ref: 289759, 346392)

Site Code: 5842
 Designation Status: SSSI
 Distance from Installation (m): 3598
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.02	0.08	0.005	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.02	0.10	0.007	-	-
Background concentration at receptor edge	0.80	21.14	1.89 (N:1.51 S:0.38)	-	-
	0.82	21.24	1.9	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	3.0 Dystrophic loch	maxN: 0.49 maxS: 0.31 minN: 0.18 Inland rock	-	-
% of relevant standard PC	Lower: 2% Upper: 1%	3%	2%	-	-
% of relevant standard PEC	Lower: 82% Upper: 27%	708%	388%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	18.24	1.41	-	-



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 20 Salop Road
 Oswestry
 Shropshire
 SY11 2NU

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Migneint-Arenig-Dduallt SAC 3.5km (Grid Ref: 289759, 346392)

Site Code: UK0030205
 Designation Status: SAC
 Distance from Installation (m): 3598
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.02	0.08	0.005	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.02	0.10	0.007	-	-
Background concentration at receptor edge	0.80	21.14	1.89 (N:1.51 S:0.38)	-	-
	0.82	21.24	1.9	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	3.0 Natural dystrophic lakes and ponds	maxN: 0.81 maxS: 0.31 minN: 0.50 European dry heaths	-	-
% of relevant standard PC	Lower: 2% Upper: 1%	3%	1%	-	-
% of relevant standard PEC	Lower: 82% Upper: 27%	708%	235%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	18.24	1.09	-	-



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 Shropshire
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Migneint-Arenig-Dduallt SPA 3.5km (Grid Ref: 289759, 346392)

Site Code: UK9013131
 Designation Status: SPA
 Distance from Installation (m): 3598
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.02	0.08	0.005	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.02	0.10	0.007	-	-
Background concentration at receptor edge	0.80	21.14	1.89 (N:1.51 S:0.38)	-	-
	0.82	21.24	1.9	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Circus cyaneus	maxN: 0.81 maxS: 0.31 minN: 0.50 Circus cyaneus	-	-
% of relevant standard PC	Lower: 2% Upper: 1%	1%	1%	-	-
% of relevant standard PEC	Lower: 82% Upper: 27%	212%	235%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	11.24	1.09	-	-



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 Shropshire
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Plas Iolyn Bog SSSI 4.8km (Grid Ref: 288202, 350147)

Site Code: 6047
 Designation Status: SSSI
 Distance from Installation (m): 4871
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.01	0.08	0.005	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge Background concentration at receptor edge	0.01 1.07 1.08	0.08 30.10 30.18	0.005 2.57 (N:2.15 S:0.42) 2.58	- - -	- - -
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Broad-leaved, mixed and yew woodland	maxN: 2.99 maxS: 2.49 minN: 0.36 Broad-leaved, mixed and yew woodland	-	-
% of relevant standard PC	Lower: 1% Upper: 0%	2%	0%	-	-
% of relevant standard PEC	Lower: 108% Upper: 36%	604%	86%	-	-
EXCEEDANCE	Lower: 0.08 Upper: No exceedance	25.18	-0.42	-	-



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 Oswestry
 Shropshire
 SY11 2NU

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River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC 7.1km (Grid ref: 290925, 341461)

Site Code: UK0030252
 Designation Status: SAC
 Distance from Installation (m): 7172
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.01	0.03	0.002	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.01	0.05	0.004	-	-
Background concentration at receptor edge	0.91	20.16	1.78 (N:1.44 S:0.34)	-	-
	0.92	20.21	1.78	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	3.0 Luronium natans	Cottus gobio	-	-
% of relevant standard PC	Lower: 1% Upper: 0%	2%	n/a	-	-
% of relevant standard PEC	Lower: 92% Upper: 31%	674%	n/a	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	17.21	n/a	-	-



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 Oswestry
 Shropshire
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Afon Dyfrdwy (River Dee) SSSI 7.1km (Grid ref: 290923, 341460)

Site Code: 5260
 Designation Status: SSSI
 Distance from Installation (m): 7173
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.01	0.03	0.002	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.01	0.05	0.004	-	-
Background concentration at receptor edge	0.91	20.16	1.78 (N:1.44 S:0.34)	-	-
	0.92	20.21	1.78	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	3.0 Standing open water - oligotrophic	maxN: 0.66 maxS: 0.44 minN: 0.22 Fen, marsh and swamp	-	-
% of relevant standard PC	Lower: 1% Upper: 0%	2%	0%	-	-
% of relevant standard PEC	Lower: 92% Upper: 31%	674%	270%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	17.21	1.12	-	-



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Y Glyn-Diffwys SSSI 7.3km (Grid ref: 298915, 344458)

Site Code: 5996
 Designation Status: SSSI
 Distance from Installation (m): 7318
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.01	0.04	0.003	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.01	0.08	0.005	-	-
Background concentration at receptor edge	0.95	28.70	2.42 (N:2.05 S:0.37)	-	-
	0.96	28.78	2.42	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Broad-leaved, mixed and yew woodland	maxN: 1.76 maxS: 1.47 minN: 0.28 Broad-leaved, mixed and yew woodland	-	-
% of relevant standard PC	Lower: 1% Upper: 0%	2%	1%	-	-
% of relevant standard PEC	Lower: 96% Upper: 32%	576%	138%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	23.78	0.66	-	-



The Estates Office,
 20 Salop Road
 Oswestry
 Shropshire
 SY11 2NU

Phone 01691 655334

mail@rogerparry.net
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Offices also at Minsterley

Coedydd Dyffryn Alwen SSSI 7.3km (Grid ref: 300100, 347612)

Site Code: 5955
 Designation Status: SSSI
 Distance from Installation (m): 7394
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.01	0.04	0.003	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.01	0.08	0.005	-	-
Background concentration at receptor edge	1.20	29.40	2.46 (N:2.10 S:0.36)	-	-
	1.21	29.48	2.47	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Broad-leaved, mixed and yew woodland	maxN: 1.61 maxS: 1.32 minN: 0.28 Broad-leaved, mixed and yew woodland	-	-
% of relevant standard PC	Lower: 1% Upper: 0%	2%	1%	-	-
% of relevant standard PEC	Lower: 121% Upper: 40%	590%	153%	-	-
EXCEEDANCE	Lower: 0.21 Upper: No exceedance	24.48	0.85	-	-



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 Shropshire
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Afon Conwy Pastures SSSI 7.6km (Grid ref: 285219, 349828)

Site Code: 5890
 Designation Status: SSSI
 Distance from Installation (m): 7663
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0.01	0.04	0.003	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.01	0.08	0.005	-	-
Background concentration at receptor edge	0.80	30.10	2.63 (N:2.15 S:0.48)	-	-
Predicted Environmental Concentration/Deposition (PEC)	0.81	30.18	2.64	-	-
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Broad-leaved, mixed and yew woodland	maxN: 2.66 maxS: 2.52 minN: 0.14 Broad-leaved, mixed and yew woodland	-	-
% of relevant standard PC	Lower: 1% Upper: 0%	2%	0%	-	-
% of relevant standard PEC	Lower: 81% Upper: 27%	604%	99%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	25.18	-0.03	-	-



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 Shropshire
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Cefn Rofft SSSI 8.1km (Grid Ref: 300755, 349693)

Site Code: 4800
 Designation Status: SSSI
 Distance from Installation (m): 8112
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0	0.03	0.002	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.00	0.00	0.000	-	-
Background concentration at receptor edge	1.20	20.16	1.73 (N:1.44 S:0.29)	-	-
	1.2	20.16	1.73	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	8.0 Acid grassland	maxN: 0.88 maxS: 0.51 minN: 0.37 Acid grassland	-	-
% of relevant standard PC	Lower: 0% Upper: 0%	0%	0%	-	-
% of relevant standard PEC	Lower: 120% Upper: 40%	252%	197%	-	-
EXCEEDANCE	Lower: 0.20 Upper: No exceedance	12.16	0.85	-	-



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Cae'R Felin SSSI 8.5km (Grid ref: 284249, 348606)

Site Code: 5562
 Designation Status: SSSI
 Distance from Installation (m): 8502
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0	0.02	0.002	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.00	0.00	0.000	-	-
Background concentration at receptor edge	0.69	19.32	1.75 (N:1.38 S:0.37)	-	-
	0.69	19.32	1.75	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	10.0 Neutral grassland	maxN: 4.86 maxS: 4.01 minN: 0.86 Neutral grassland	-	-
% of relevant standard PC	Lower: 0% Upper: 0%	0%	0%	-	-
% of relevant standard PEC	Lower: 69% Upper: 23%	193%	36%	-	-
EXCEEDANCE	Lower: No exceedance Upper: No exceedance	9.32	-3.11	-	-



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 Shropshire
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Eidda Pastures SSSI 9.5km (Grid ref: 283410, 350449)

Site Code: 6274
 Designation Status: SSSI
 Distance from Installation (m): 9560
 Receptor Type: Habitat

Installation Information

No.	Name	No. of sources	No. of new sources	PM ₁₀ (t/a)	NH ₃ (t/a)	Odour (kOu/a)	Conc NH ₃ (µg/m ³)	Dep N (kg/ha/yr)	Dep Acid (kEq H+/ha/yr)	Conc PM ₁₀ (µg/m ³)	Conc Odour (Ou/m ³)
1	Land near Wind Turbine Track	1	1	-	2.6	-	0	0.03	0.002	-	-

Total Depositions/Concentrations and Exceedances

Concentrations/Depositions and Critical Loads/Levels	NH ₃ (µg/m ³)	N Dep. (kg N/ha/yr)	Acid Dep. (kEq H+/ha/yr)	PM ₁₀ (µg/m ³)	Odour (Ou/m ³)
Process Contribution (PC) at receptor edge	0.00	0.00	0.000	-	-
Background concentration at receptor edge	1.03	29.12	2.51 (N:2.08 S:0.43)	-	-
	1.03	29.12	2.51	-	-
Predicted Environmental Concentration/Deposition (PEC)					
Environmental Assessment Level or Critical Load / Level	Lower: 1 Upper: 3	5.0 Broad-leaved, mixed and yew woodland	maxN: 3.78 maxS: 3.43 minN: 0.36 Broad-leaved, mixed and yew woodland	-	-
% of relevant standard PC	Lower: 0% Upper: 0%	0%	0%	-	-
% of relevant standard PEC	Lower: 103% Upper: 34%	582%	66%	-	-
EXCEEDANCE	Lower: 0.03 Upper: No exceedance	24.12	-1.27	-	-



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SSSI Name	Background Levels		Contribution to ammonia average (NH3) concentration from this proposal	Critical level for habitat (ug)	% contribution to NH3 critical levels (CL for habitat is 3ug)*	Contribution to Nitrogen (N) deposition from this proposal	CL for habitat (kg/ha /yr)	% contribution to N critical loads (CL for habitat Low Level)
	NH3 (ug)	N (kg)						
Corsydd Nug a Merddwr	1.12	23.10	0.08	3	2.66%	0.42	5	8.4%
Mynydd Hiraethog	0.87	21.14	0.02	3	0.66%	0.10	3	3.33%
Migneint-Arenig-Dduallt	0.80	21.14	0.02	3	0.66%	0.10	3	3.33%
Migneint-Arenig-Dduallt	0.80	21.14	0.02	3	0.66%	0.10	3	3.33%
Migneint-Arenig-Dduallt	0.80	21.14	0.02	3	0.66%	0.10	10	1%
Plas Iolyn Bog	1.07	30.10	0.01	3	0.33%	0.08	5	1.6%
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid	0.91	20.16	0.01	3	0.33%	0.05	3	1.66%
Afon Dyfrdwy (River Dee)	0.91	20.16	0.01	3	0.33%	0.05	3	1.66%
Y Glyn-Diffwys	0.95	28.70	0.01	3	0.33%	0.08	5	1.6%
Coedydd Dyffryn Alwen	1.20	29.40	0.01	3	0.33%	0.08	5	1.6%
Afon Conwy Pastures	0.80	30.10	0.01	3	0.33%	0.08	5	1.6%
Cefn Rofft	1.20	20.16	0.00	3	0%	0.00	8	0%
Cae'R Felin	0.69	19.32	0.00	3	0%	0.00	10	0%
Eidda Pastures	1.03	29.12	0.00	3	0%	0.00	5	0%



Conclusion

Based upon the results of the preliminary ammonia screening assessment, it is considered that the CCW would not require further modelling of ammonia emissions for the proposed poultry farm as ammonia emissions have been screened as insignificant following use of the SCAIL screening tool.



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