CRoW Appendix 4 (140_10_SD02)

CRoW Act 2000: Natural Resources Wales application for permission - Formal Notice

Natural Resources Wales Formal Notice.

Requirements of Section 28I of the Wildlife & Countryside Act 1981 as amended by the Countryside and Rights of Way Act (CRoW) 2000.

Duty in relation to granting any consent, licence or permit for activities likely to damage Sites of Special Scientific Interest (SSSI).

Guide to filling in this form for Natural Resources Wales staff:
To be completed by Permitting Officers for any applications for a permission which the Natural Resources Wales has considered under S28G duties to protect and enhance SSSIs. This applies to all proposed permissions within a SSSI, and to operations outside the SSSI boundary which are likely to damage its special features.
Refer to OI 140_10 'Applying the Countryside and Rights of Way (CRoW) Act 2000 to applications for permits with potential for impact on Sites of Special Scientific Interest (SSSI)', including the flowchart in Appendix 2.

Pink italic text – drafting notes, to be deleted before completion/consultation.
Blue text – examples, to be replaced with permission-specific information.
Ensure you have completed all sections.

1. Natural Resources Wales area/region/NPS hub:	**Flintshire & Wrexham** Environment team
2. Name of SSSI:	•**Stryt Las a'r Hafod** •**Afon Dyfrdwy (River Dee)**
3. Type of permission:	Environmental Permit
4. Date for Natural Resources Wales permit determination:	12/04/2024
5. Predicted 28 day date for response from NRW conservation/ecology (under S28 I(4)):	*N/A sent for information.*
6. Natural Resources Wales reference no:	PAN-023536
7. National grid reference:	SJ 29112 43751

8. Description of proposal:	Bartley Power limited have applied for a permit under the environmental permitting regulations (EPR) for their power generator site at Ruabon which is made up of 10 x containerised Caterpillar gas engines which have a thermal input if 4.7 MWth giving a site total of 47 MWth. Each combustion unit has its own associated emission stack (10 meters in heigh). The facility is classified as a specified generator that is also a medium combustion plant under the Environmental Permitting Regulations 2016, Medium Combustion Plant directive (MCPD) and Specified Generator regulations The site also has a backup diesel generator which is below 1 MWth and is therefore not subject to MCPD. The combustion units at the site were brough online on the 23rd of November 2018. As the units were commissioned before the 20th December 2018, they are classified as existing. Existing MCPs and tranche A specified generators are being brought into regulation by 2025 (5-50 MWth) or 2029 (1-5MWth). The site is made up from existing units with a combined thermal input of more than 5 MWth the operator is required to have a permit and meet the emission limits by the 1st January 2025. This permit application is to bring the site into regulation and for the site to meet the requirements of MCPD, EPR and the emission limits.
9. Is the proposed activity within (wholly or partially) the SSSI boundary?	**No** •**Stryt Las a'r Hafod (1.9 km North of the proposal)** •**Afon Dyfrdwy (River Dee) (1.6 km South) of the proposal**
10. Has there been any pre-application discussion or correspondence with NRW conservation/ecology	NO

11. What aspect(s) of the proposed permission may damage the features which are of special interest for the SSSI?

The following 'Operations Requiring Consent' (or other activities associated with the permission) that may cause damage) are relevant to the proposed permission.

-Emissions and deposition of oxides of nitrogen (NO and NO_2 expressed as NO_2).

The following SSSI features and mechanisms of impact have been considered to assess the likelihood of damage:

Dumping, spreading or discharging of any materials – through emissions of NOx which could potentially could impact the site through concentration of atmospheric NOx and deposition of NOx on to the surfaces of vegetation. Deposition of NOx could also lead to increase in acidity. The MCPs are fuelled by natural gas which has a negligible sulphur content and as such there is no mechanism of impact from deposition of sulphur dioxide.

The applicant has supplied an air quality impact assessment for the emissions of NOx. The assessment has assumed worst case scenario which assume all 10 combustion units running for the entire year with NOx at the permit levels. In reality the emissions are most likely lower than what is reflected in the assessment.

Stryt Las a'r Hafod

The applicant did not refence this SSSI in their air quality modelling but had performed the modelling for the Johnstown Newt Sites SAC which covers the same location as this SSSI.
The site is designated for the following:

- A population of great crested newt
- An assemblage of the five widespread amphibian species namely common frog, common toad, palmate newt, common newt and great crested newt

The site is also a SAC. The relevant features of the SAC are assessed in an habitats regulatory assessment (HRA)/ OGN 200 form 1.

Atmospheric NO_2

The long term (annual) process contribution of atmospheric NOx from the proposal is 1.6 µg/m^3 which is 5.3% of the critical level of 30 µg/m^3 and the highest predicted environmental concentration (PEC) (the process contribution and background NOx) was 11.2 µg/m^3 which is 37.3% of the critical level. As the PEC is less than 70% of the critical level, the concentration of NOx emission from the proposal screen out as insignificant.
As such there is no mechanism that could cause damage to the features of the SSSI through atmospheric concentration of NOx.

Nitrogen Deposition from atmospheric NOx

Nitrogen deposition could occur from atmospheric NOx. The applicant's air quality modelling showed that the process contribution of NOx. The highest process contribution was 0.46 KgN/Ha/Year and the predicted environmental concentration 35.86 kgN/Ha/Year. The high predicted environmental concentration is due to the high background. APIS shows that the major contribution to the high background is from livestock (57.4%) with non abatable non agricultural making up 8%.

However the impacts on nitrogen deposition occurs on land-based vegetation. The two key designated features are animal species (Population of great crested newt and amphibian species). These would not be directly impacted through the deposition of nitrogen from atmospheric NOx. Deposition from air pollutants are assessed for designated habitats within a protected site, rather than the protected species living within the site. This is because it is the vegetation that is sensitive to change as a result of the presence of these pollutants. APIS does not have critical load values for the species (the applicant used a value of 10 kgN/Ha/Year). No further assessment is required.

Acidification

Acidification could occur from the deposition of atmospheric NOx . Air quality modelling shows that the predicted acid deposition. The main features of the site crested newt and the five widespread amphibian species therefore there is no direct mechanism of impact from acidification from NOx deposition which tents to impact the land based vegetation and lichens.

APIS does not have a critical load value for acidification for the features of this site.

Afon Dyfrdwy (River Dee)

The applicant had provided the modelling for the potential NOx concentration and deposition at the site. The site is designated for the following

- Fish (Salmon, bullhead, brook lamprey, river lamprey, sea lamprey)
- Otter
- Aquatic and shingle dwelling invertebrates (club-tailed dragonfly, the stonefly
- Isogenus nubecula and the weevil Baris lepidii)
- Floating water plantain
- Four river habitat types
- Saltmarsh transition habitats
- Vascular plants (slender hare's-ear, sea barley, and hard-grass)
- Geology: Natural exposures of Upper Carboniferous rocks at Dee Bridge
- Geology: Fluvial landforms and processes related to the development of the River
- Dee near Rhewl, and between Holt and Worthenbury

The emissions are highly unlikely to impact the geology designations. The majority of the vegetation and animal species are water based and are less sensitive to impacts from atmospheric NOx and deposition and acidification from atmospheric NOx compared to land based vegetation.

Atmospheric concentration of NOx

There is a potential mechanism for Atmospheric NOx to impact the otter population. The rest of the features are unlikely to be impacted.
For short term emissions the highest process contribution was 15.3 µg/m^3 or 20.4% of the short term (24 hour mean) critical level of 75 µg/m^3 and the predicted environmental concentration (PEC) was 17.9 µg/m^3 or 23.9% of the short term critical level.
For long term emissions of NOx, the highest process contribution at the site was 1.2 µg/m^3 which is 4% of the long term (annual mean) critical level of 30 µg/m^3 . The PEC was 8.5 µg/m^3 or 28.3% of the critical level.

As the PEC for both long and short term NOx emissions is less than 70% of the respective short and long term the critical levels for NOx, the emissions screen out as insignificant and therefore there is no likelihood of damage to the features of the SSSI through this impact pathway.

Nitrogen Deposition from atmospheric NOx

The feature does not have any associated critical load values for nitrogen deposition. However there is no likelihood that this mechanism would impact the features of the SSSI as the feature are aquatic based which have a low sensitivity to nutrient deposition from atmospheric nitrogen (Nitrogen deposition from atmospheric NOx impacts land based vegetation).

Acidification
There are no acid critical loads listed on APIS for the features of this site. Given that acidification is from deposition of atmospheric NOx onto surfaces and the features are water based which are less sensitive to atmospheric deposition of NOx, there is no likelihood of a mechanism of impact from the proposal that could directly impact the features of the SSSI.

12. Decision

1. Stryt Las a'r Hafod

i) The proposed permission is **not likely to damage** any of the flora, fauna or geological or physiological features which are of special interest.

The concentration of NOx screened out as insignificant. For acidification and nitrogen deposition from atmospheric NOx the features (great crested newt, An assemblage of the five widespread amphibian species) are not sensitive to this mechanism of impact (as nitrogen deposition and acidification from atmospheric NOx impacts are for vegetation which is sensitive to changes in atmospheric NOx). Atmospheric concentration of NOx from the proposal screens out as insignificant.

2. Afon Dyfrdwy (River Dee)

The proposed permission is **not likely to damage** any of the flora, fauna or geological or physiological features which are of special interest.

The predicted environmental concentration of NOx screens out as insignificant
Given that most of the designated features are aquatic based, these features are not likely to be impacted from nitrogen and acid deposition atmospheric NOx.

Given that the permit application is for an existing activity that is now falling under regulations and will be subject to emission limits from 01/01/2025, the proposal is unlikely to lead to increased risk of deterioration of the designated sites.

Natural Resources Wales is minded to:
Issue the permission

13. Name and job title of Natural Resources Wales officer:	William Wallace Senior Permitting Officer
14. Date form sent to NRW conservation/ecology	15/03/2024 (for information)
For Natural Resources Wales use only, once NRW conservation/ecology response received	
15. NRW conservation/ecology comment on assessment:	NRW conservation/ecology advise the operation can go ahead.
16. Name and job title of NRW conservation/ecology officer:	Kirsty Williams, Maria Majka Conservation officers Rhys Ellis (Denbighshire Team Leader)

17. Date of receipt of NRW conservation/ecology response:	11/4/2024