



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.

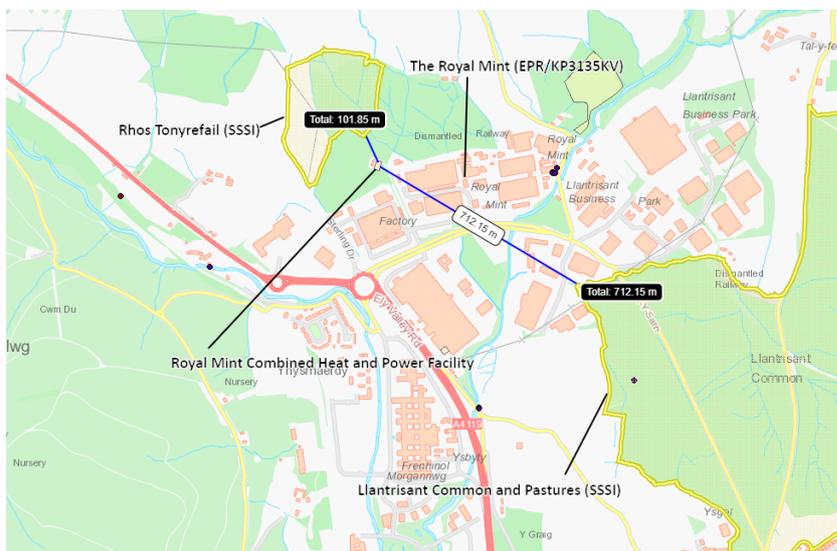
Blue text – examples, to be replaced with permission-specific information.

Ensure you have completed all sections.

1. Natural Resources Wales area/region/NPS hub:	Wales, Cardiff, Ty Cambria
2. Name of SSSI:	<ul style="list-style-type: none"> Rhos Tonyrefail Llantrisant Common and Pastures
3. Type of permission:	Environmental Permit
4. Date for Natural Resources Wales permit determination:	Statutory determination time: 08/04/2022
5. Predicted 28 day date for response from NRW conservation/ecology (under S28 I(4)):	08/04/2022
6. Natural Resources Wales reference no:	PAN-014743
7. National grid reference:	ST 03502 84973
Description of proposal:	<p>Infinite Renewable Group Limit has applied for a permit application for a Combined Heat and Power (CHP) facility which is subject to Medium Combustion Plant Directive (MCPD) and Specified Generator controls under the Environmental Permitting Regulations. It would be located at the Royal Mint Llantrisant as a directly associated activity (DAA) to the main Installation (permitted as EPR/KP3135KV).</p> <p>The proposed CHP plant will be natural gas powered with a thermal input of 4.28MWth with a 13 meter high emission stack and will supply steam and electricity to the main installation.</p>

8. Is the proposed activity within (wholly or partially) the SSSI boundary?

No but is within 100 meters from the nearest SSSI (Rhos Tonyrefail)



Medium Combustion Plant- risk screening distance of 2 km. Two SSSI

- Rhos Tonyrefail (approximately 100 Meters)
- Llantrisant Common and Pastures (approximately 710 meters)

9. Has there been any pre-application discussion or correspondence with NRW conservation/ecology

No

10. 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 of oxides of nitrogen from combustion of Natural gas (Dumping, spreading or discharging of any materials under operation requirements)

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

Rhos Tonyrefail

- marshy grassland,
- acid flush,
- species-rich neutral grassland,
- acid grassland
- wet heath
- blanket mire

Llantrisant Common and Pastures

- Marshy grassland
- Acid flush
- Acid grassland
- Species-rich neutral grassland
- Cornish moneywort
- Bog earwort

Potential for impact from the proposal to the features of the SSSI are from the potential increase in NO_x concentration in the air and the nutrient nitrogen and acid deposition due to the emissions of oxides of nitrogen from the combustion plant.

For nutrient nitrogen deposition the minimum critical load of 5 kg/ha/year for woodland and 8 kg/ha/year for grassland was used by the applicant in the modelling to present a worst-case scenario. While the woodland would present the worst-case scenario, the points that the applicant have relatively low woodland coverage (Rhos Tonyrefail and Llantrisant Common and Pastures) therefore the values for critical load for grassland would be a more realistic value of the potential deposition.

Critical Level for NO_x

The maximum process contribution for critical level at Rhos Tonyrefail and Llantrisant Common and Pastures (at the nearest point) are above the 1% insignificance screening threshold for annual mean/long term (5% at closest point on Rhos Tonyrefail and 1.4% for Llantrisant commons) and above the 10% insignificance screening threshold for daily mean/short term. Both long term and short term predicted environmental concentration (PEC) are below the critical level (highest is 60.7% for daily mean and 60.1% for annual mean) at nearest point of Rhos Tonyrefail) and therefore the impacts to critical levels at these points are not significant and is unlikely to damage the SSSIs. The emission screens out as not significant as they are below 100% of PEC with detailed modelling.

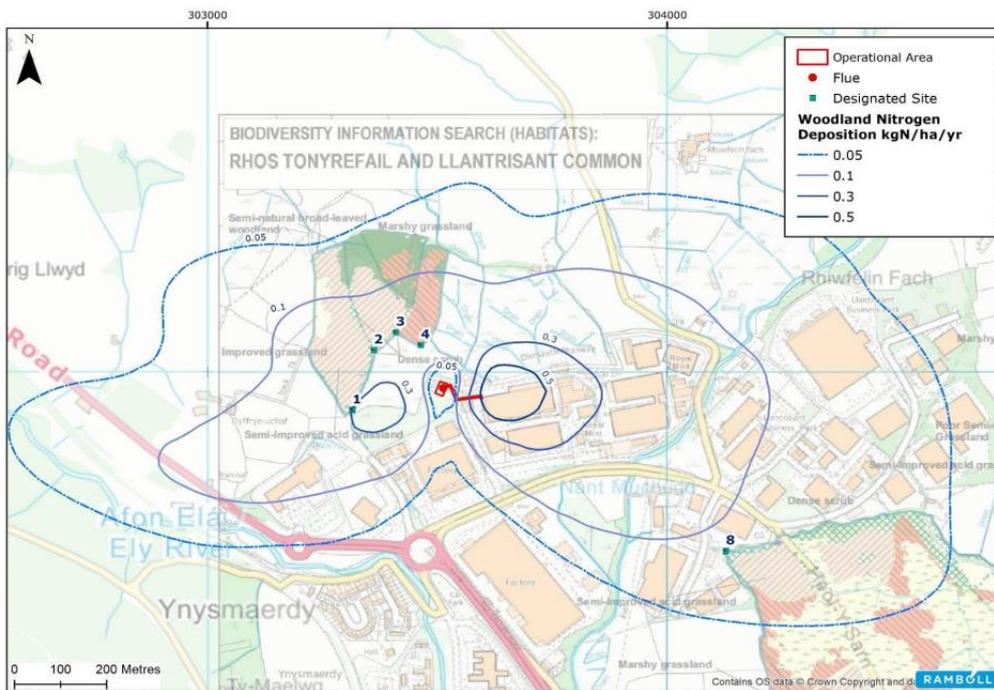
Critical Loads

Nitrogen Deposition-

Nitrogen deposition for Rhos Tonyrefail at the point of maximum impact show a process contribution for grassland 1.88% of the critical load (8 kg/ha/year). For woodland deposition of 0.3 kg/ha/year which correlates to 6% of the minimum critical load (5 kg/ha/year).

Nitrogen deposition for Llantrisant Common and Pastures at the point of maximum impact, show process contribution (PC) of <1 % of the grass land critical (but 1.69% (0.085 KgN/ha/yr) of the minimum critical load for woodland deposition. However, this decreases to <1% of the critical loads at a further point of the SSSI).

While the process contribution of 1.88% (or for woodland 6% of the minimum critical load) cannot automatically be screened out as an insignificant source it is also not considered to be a significant contribution to the existing nutrient nitrogen exceedance at the point of maximum impact. The areas of Rhos Tonyrefail that have the highest process contribution from the proposed CHP are a small area of closest region of the SSSI located within 100 meters north west of the emission point. PC falls rapidly with distance from the facility and is significantly decreased in the other areas of the SSSI, down to <1% where PC is considered insignificant in these areas. As the total area of deposition exceedance is relatively small, the absolute amount of nutrient nitrogen deposited will be limited. For Llantrisant commons SSSI the only exceedance in process contribution is for woodland at the closest point of the SSSI to the emission point and would be lower for the majority of the area of the SSSI.



The predicted environment concentration (PEC) at the point of highest PC for Rhos Tonyrefail is 208% (grassland)/518% (woodland) and for Llantrisant commons 207% (grassland)/ 514%(woodland). The high PEC for nitrogen deposition for both grassland and woodland is due to the high background in the area from other sources of nitrogen deposition that gives the background value of up to 208% of the critical load for grassland (512% with woodland critical loaded). The addition of the CHP plant would not increase the critical load by any significant margin with the exceeding background already present.

Using Air Pollution Inventory System (APIS) tool on attribution to give a breakdown of sources of the contribution shows that the majority are from sources not associated with industrial combustion.

The breakdown of sources of nitrogen deposition consists of Livestock (32.8% local source, 23.6% non local), Non agriculture non abatable (13.1%) road transport (11.9% (local) and 9.06% non local), Europe import (10.7%), Other (7.96%) Fertiliser application (7.66%) non agricultural abatable (7.46% NH₃ source from Republic of Ireland

(4.78%) and other road transport 3.48%

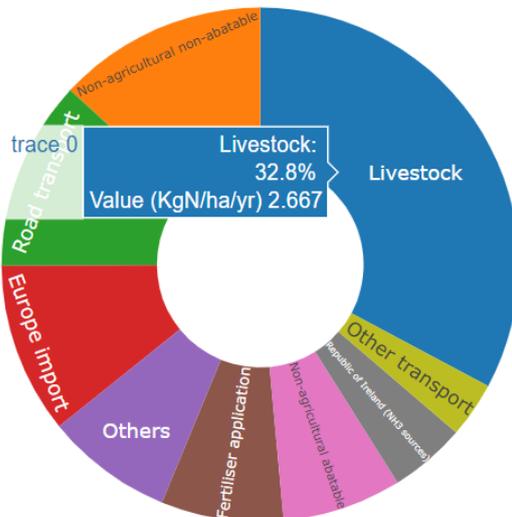
Sources ranked by total Nitrogen deposition (KgN/ha/yr) from combined UK sources

hover over the plots to obtain information



Local contributions to Nitrogen deposition (KgN/ha/yr) from sources (UK)

Local contributions to Nitrogen deposition (KgN/ha/yr) from sources (UK)



The area of the site (Rhos Tonyrefail) in question is already in exceedance due to the high background which, as show in the breakdown, the majority of the sources are not associated with the combustion sector which the activity that the site is being permitted for. The addition of this activity would not significantly increase the impact on the site to the already exceeding background. Removing all local combustion sources would not prevent the current exceedance – other more significant sources need to be addressed.

Acid deposition

Process contribution of acid deposition for Llanstriant commons and Pasture SSSI screened out as being <1% of the critical load.

Process contribution for acid deposition for Rhos Tonyrefail at the nearest point to the SSSI is 1.62% of the critical load for grass land habitats. As with the Nitrogen deposition, the process contribution of >1% is only in the small area of the single section of the SSSI closest to the stack. The PC then deceases rapidly with distance and becomes insignificant. The PEC is also in exceedance due to the high background present, with site average being above the acid critical load value.

11.Decision

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

As already mentioned above, given the already exceeding background and the relatively small area of the SSSI affected and total deposition from the facility there is no likely impact on the SSSI site from the proposal.

**Natural Resources Wales is minded to:
Issue the permission**

<p>12.Name and job title of Natural Resources Wales officer:</p>	<p>William Wallace Installations and RSR Permitting Officer</p>
<p>13.Date form sent to NRW conservation/ecology</p>	<p>11/03/2022</p>

For Natural Resources Wales use only, once NRW conservation/ecology response received

14.NRW conservation/ecology comment on assessment:

i) NRW conservation/ecology advise the operation can go ahead

This development is predicted to show a process contribution for grassland 1.88% of the critical load (8 kg/ha/year) and a woodland deposition of 0.3 kg/ha/year which correlates to 6% of the minimum critical load (5 kg/ha/year). We recognise that the increases are predicted to be significant but are relatively small percentages, with background levels contributing to the exceedance of the critical load for the designated habitats.

Given the limited additional NOx contribution from the process and the limited spatial impact above the 1% significance threshold we have no objection to the scheme. However, there is likely to be an impact (albeit limited) on the Rhos Tonyrefail SSSI, and in general terms the Royal Mint site is surrounded by a high proportion of land designated for its rare and sensitive habitats. As such, and in the spirit of Corporate Social Responsibility (CSR) and Environmental sustainability, the Mint may consider that some involvement in the management or care of these Nationally Important sites on their doorstep would be aligned with their Corporate Vision. The local Environment Team would be happy to discuss potential involvement or opportunities to collaborate on positive local projects or initiatives related to these important sites should the Mint feel this would be a positive addition to their CSR activities.

15.Name and job title of NRW conservation/ecology officer:

Catherine Hammond Officer 2

16.Date of receipt of NRW conservation/ecology response: