

## SSSI Assessment for permit/licence and deployment applications



**Cyfoeth  
Naturiol  
Cymru  
Natural  
Resources  
Wales**

To be completed by Permitting Officers for any applications for a permission which Natural Resources Wales has considered under S28I duty to notify SNCB and take their advice into account. This applies to all proposed permissions within a SSSI, and to operations outside the SSSI boundary which are likely to damage its special features.

NRW as a Section 28G authority has, when exercising its functions, a general duty to take reasonable steps, consistent with the proper exercise of its functions, to further the conservation and enhancement of the flora, fauna or geological or physiological features by reason of which the site is of special interest'

Part 1 – SSSI Assessment

Part 2 – Formal notification to SNCB (to be completed if part 1 assessment concludes likely damage, not likely to damage because of conditions or you cannot conclude no likely damage)

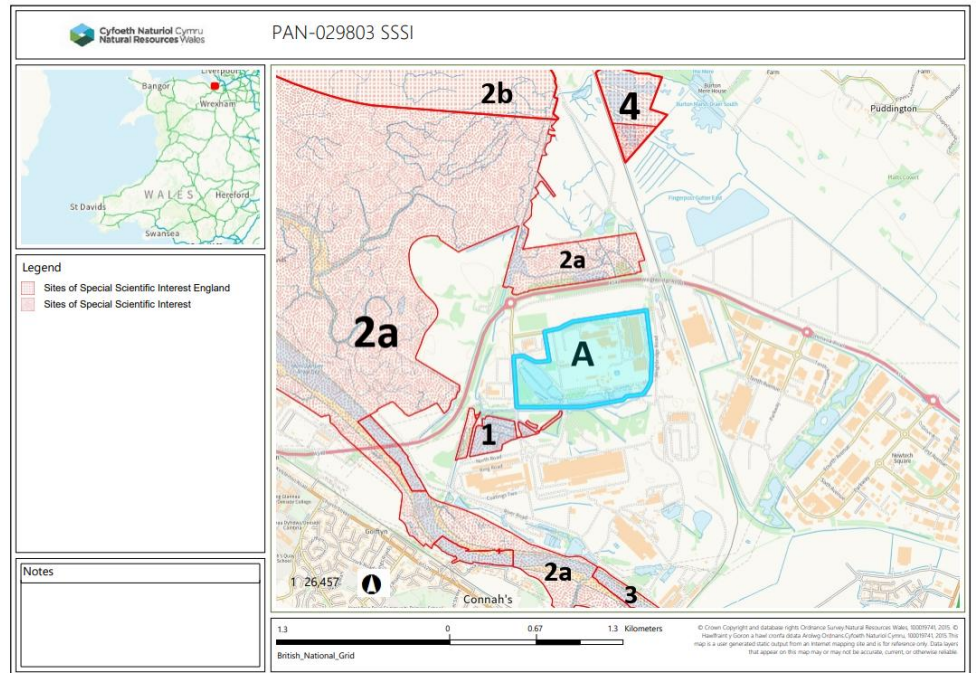
Part 3 – Decision

**Pink text** – drafting notes, to be deleted before completion/consultation.

**Blue text** – examples, to be replaced with permission-specific information and text turned to black.

### Part 1 – SSSI Assessment

1. Permitting officer/team	William Wallace Senior Officer Installation and RSR permitting
2. Permit application reference and site name	PAN-029803 Shotton Paper Mill
3. a. SSSI name(s) b. location c. NRW Operational Area/Environment Team	<p>There are four SSSI located within screening distance, three are located in Wales and one in England</p> <p>a.</p> <p>(i) Wales –</p> <ul style="list-style-type: none"> <li>• Dee Estuary / Aber Afon Dyfrdwy</li> <li>• Shotton Lagoons and Reedbeds</li> <li>• Afon Dyfrdwy (River Dee)</li> </ul> <p>(ii) England- Inner Marsh Farm SSSI</p> <p>b.</p>



**Figure 1:** Location Plan of the site and the nearby SSSI, A-Shotton Paper mill, 1 Shotton Lagoons and Reedbed, 2a- Deeside Estuary (Wales) 2b Deeside Estuary (England), 3 Afon Dyfrdwy (River Dee) and 4 Inner Marsh Farm

- Dee Estuary / Aber Afon Dyfrdwy
- Shotton Lagoons and Reedbeds
- Afon Dyfrdwy (River Dee)

(ii) Natural England- Inner Marsh Farm SSSI

c.

(i) NRW- Flintshire

- Dee Estuary / Aber Afon Dyfrdwy
- Shotton Lagoons and Reedbeds
- Afon Dyfrdwy (River Dee)

(ii) Natural England- Inner Marsh Farm SSSI

The sites are also designated as Special area of conservation (SAC), Special protection area and Ramsar designated sites. The features relating to those designations have been assessed under a Habitats Regulations Assessment (HRA).

4. Brief description of proposal

**Regulated facility location:** Shotton Paper Mill, Weighbridge Road, Shotton, Deeside, Flintshire, CH5 2LL

Primary Activity: Installation - Schedule 1 Activity Section 6.1, Part A(1)(b) – producing in an industrial plant, paper and board where the plant has a production capacity of more than 20 tonnes per day.

Other Installation Schedule 1 Activities;

- Section 1.1, Part A(1)(a) – burning any fuel in an appliance with a rated thermal input of 50MW or more.
- Section 5.1, Part A(1)(b) – the incineration of non-hazardous waste in an incineration or co-incineration plant in a facility with a capacity exceeding 3 tonnes per hour.
- Section 5.4, Part A(1)(a)(i) – disposal of non-hazardous waste in a facility exceeding 50 tonnes per day by biological treatment.

Shotton Mill Limited have applied to vary their environmental permit for Shotton Paper Mill (EPR/BT4885IT) to reflect the site's production changing from newspaper print to the production of containerboard from recycled fibre (750,000 tonnes per annum) and tissue paper from a mix recycled fibre and virgin fibre (70,000 tonnes per annual).

This will result in the following changes to the site;

- Addition of a new containerboard machine and tissue production with associated facilities. This includes new point source emissions to air from the machines and dryers.
- The application of best available techniques for the activities carried out onsite.
- New combined heat and power (CHP) plant which will initially comprise of 2 x 23 MWth gas turbines fuelled on natural gas each with a 75 meter stack. A third gas turbine is to be put in at a later date. The CHP will also include 2 x 34 MWth backup boilers with a 30 meter stack.
- Modifications to the effluent treatment plant which will include the addition of a new anaerobic digestion plant, biogas storage and a biogas fuelled engines (both 5.8 MWth, each with a 24 meter stack). The effluent treatment plant will also have a new containment system installed. The changes in the effluent treatment plant will not result in any new emissions or increase of emissions limits and volumes to water over what is currently permitted.

The main changes to the site that will impact the designated site's features is through the emissions to air from the new items of plant being added to the site. These including the biogas boilers, the new combined heat and power plant and the dryers associated with the production.

Although the effluent treatment plant is being modified, there are no changes to emissions limits of substance or volumes being discharged

to water other than tighter emission limits on existing permitted substances.

5. What aspects of the proposed permission are likely to damage the SSSI features of special interest?

For water quality, there will be no changes to the discharge volume limits or emission limits other than the addition of limits to substances that previously had been permitted but not limited. As such the variation will result in tighter limits on water discharge and will not pose any additional risk to the designated sites over the current permitted discharge.

The main impact pathway is through emissions to air from the process, this primarily being through combustions.

The combustion plants are as follows;

- 2 x Combined heat and power plants (23 MWth each)
- Back up boilers (2 x 34 MWth going through a single stack)
- Biogas engines (2 x 5.8MWth engines)
- Dryers – The site will have drying using direct heating for gas fired burners. One for the tissue process using a 6 MWth gas fired direct and 14 x 1.74MWth gas fired burners for the carboard production. These are exempt from medium combustion plant directive as they are used for direct heating.
- Emergency Flare – The anaerobic digestion plant is also equipped with an emergency flare for when the biogas engines are not available. It anticipated to operate less than 100 hours per year.

The CHP, backup boiler and biogas are fuelled on natural gas, while the Biogas boilers are fuelled on gas generated from the on-site anaerobic digestion plant.

These will result in emissions of oxides of nitrogen (NO, NO<sub>2</sub> and N<sub>2</sub>O, expressed as NO<sub>x</sub>) from the combustion units and sulphur dioxide (SO<sub>2</sub>) from the Biogas boilers.

The site also has a biomass waste incinerator, however this is an existing plant and will not change as a result of the variation but the emission limit will be reduced from 200 mg/m<sup>3</sup> to 180 mg/m<sup>3</sup>. There is also a parallel variation to apply best available techniques to the biomass boiler to apply more techniques to reduce emissions and impacts from the boiler. For air quality the operator has modelled for two scenarios;

1. Combined heat and power (CHP) – Under this scenario the site will run two 23 MWth Gas turbines are running (each discharge through two 70 meter high stacks). This is the normal running operation
2. Boiler – Under this scenario two 34 MWth Backup boilers will run and both discharge to air through a single 30 meter high stack. This is anticipated to occur no longer than 730 hours per year, however the backup may be used full time for up to the first 6 months prior to the CHP being commissioned.

In both CHP and Boiler scenarios, the modelling has included emissions from the biogas engines and the driers.

In most situations, the combined heat and power scenario has the higher impact. For the assessment, the worst case scenario of the two will be used to predict the highest potential impacts to the designated site and features. It should be noted that the air quality impact for the CHP scenario had modelled on the assumption that the site will have 3 x 23 MWth Gas turbines despite the variation only including two of these (2 x 23MWth). The third is to be added in a future permit variation. As such the modelling under CHP conditions represents a more worst case scenario than what would be allowed under the proposed permitted limits.

The site also has a flare for the anaerobic digestion plant however this would only be used for emergencies where the biogas engines are not running.

#### **Assessment criteria of air quality impact**

*This section describes the assessment criteria used to determine if emissions screen out or could cause damage*

For terminology used in this assessment please see here; [Critical Loads and Critical Levels - a guide to the data provided in APIS | APIS](#)

The criteria of likelihood of damage to features of the SSSI are outlined in the guidance; [Air emissions risk assessment for your environmental permit - GOV.UK](#)

#### **Criteria for atmospheric concentrations:**

- **Long Term (annual) atmospheric concentration of NOx:** a long term critical level of 30  $\mu\text{g}/\text{m}^3$  is used in line with the guidance
- **Short term (daily) atmospheric concentration of NOx:** The critical level for short term NOx is 75  $\mu\text{g}/\text{m}^3$ , but a upper limit of 200  $\mu\text{g}/\text{m}^3$  can be used if the ozone levels are below the AOT critical level and the predicted environmental concentration of sulphur dioxide is below 10  $\mu\text{g}/\text{m}^3$ . For this assessment, the impacts are assessed against 75  $\mu\text{g}/\text{m}^3$  but where emissions do not screen out at 75  $\mu\text{g}/\text{m}^3$ , the 200  $\mu\text{g}/\text{m}^3$  is considered where evidence shows that the critical levels of ozone and sulphur dioxide (10  $\mu\text{g}/\text{m}^3$ ) are not breached.

- **Atmospheric concentration SO<sub>2</sub>:** The critical level for short term NO<sub>x</sub> is 20 µg/m<sup>3</sup> is used. However 10 µg/m<sup>3</sup> is used where there is either lichens are present or applicability of higher short term NO<sub>x</sub> is used (See **Short term (daily) NO<sub>x</sub>**).
- **Nutrient nitrogen deposition and acid deposition critical load:** Unless otherwise stated the critical load for nutrient nitrogen and acid deposition were taken from air pollution and inventory system (APIS) [APIS app | APIS](#). The lowest critical load was used for the screening assessment for each feature (unless feature is not present within the section of the habitat/ screening distance of the site) .

Background and critical loads have been taken from air pollution and inventory system [Natural Resources Wales / Find protected areas of land and sea](#) and the revised section of the air impact assessment (PAN-029803 Additional Information dated 17/02/2026).

If the process contribution of the installation/proposal is less than and 10% of the short term critical level and less 1% of the long term critical level (level at which damage could occur) or critical load (for deposition), then the emission screens out as insignificant and no further assessment is required.

Background data, and site specific critical load (acid and nutrient) were taken from Air pollution inventory system (APIS).

## Natural Resources Wales

### 1 Shotton Lagoons and Reedbeds

Citation: [CYNGOR CEFN GWLAD CYMRU](#) and [Shotton Lagoons & Reedbeds SMS - English - Confirm 4Oct06....](#)

The site has the following features as outlined in the Citation;

- Population of breeding common tern
- Reedbeds

The main mechanism of impact are as follows;

- Emission to air of combustion products that could cause damage through toxic contamination, acidification and nutrient enrichment that can damage the supporting habitat. The emissions that can cause damage are as follows;
  - Oxides of nitrogen (NO<sub>x</sub>)
  - Sulphur dioxide (SO<sub>2</sub>)
  - Deposition of nitrogen from atmospheric NO<sub>x</sub>.
  - Acidification through deposition of atmospheric NO<sub>x</sub> and SO<sub>2</sub>
- Potential impacts for noise coming from the site that could cause disturbance.

The installation does not discharge to these lagoons (the only changes to the emissions are tighter emission limits on existing discharge substances) and as such the proposal does not have any additional impact through water discharge.

## **Impact Pathways**

### **Atmospheric NO<sub>x</sub>**

The modelling showed that the worst case long term process contribution of NO<sub>x</sub> emission would be 0.86 µg/m<sup>3</sup>, which is 2.9% of the critical level (30 µg/m<sup>3</sup>). The predicted environmental concentration (PEC) (using a background of 18.1 µg/m<sup>3</sup>)\*\* is 18.5 µg/m<sup>3</sup> (62% of the critical level). As the PEC is less than 70% of the critical level, the emissions screen out from further assessment and it can be concluded that the proposal would not cause any damage to the designated features of site through this mechanism.

The short term process contribution was 10.1 µg/m<sup>3</sup> (13.5% of the short term critical level of 75 µg/m<sup>3</sup>) under combined heat and power plant and 0.67 µg/m<sup>3</sup> (1% of the critical level) under back-up boiler. The PEC was predicted as 83.3 µg/m<sup>3</sup> or 111.1% of lower critical level. As such the next stage was to check if the upper critical load of 200 µg/m<sup>3</sup> is applicable.

The PEC sulphur dioxide was below 2.95 µg/m<sup>3</sup> or 29% of the critical level of 10 µg/m<sup>3</sup> and there was no exceedance of ozone above AOT40 in North Wales (as reported table 4-6 [Annual Report 2024 Issue 1 Online Viewer - DEFRA UK Air - GOV.UK](#))

As the PEC of ozone and SO<sub>2</sub> did not exceed the critical levels, the use of the higher 200 µg/m<sup>3</sup> is appropriate under these circumstances. Applying the upper critical level of 200 µg/m<sup>3</sup>, the process contribution is 5.1% and the PEC is 41.6% of the upper critical level. Therefore the short term atmospheric concentration of NO<sub>x</sub> from the site will not lead to damage of the features of the designated site.

\*\* (the PEC used by applicant also included background and in-combination assessment with other plan/project which is not normally carried out for SSSI. Using PEC of just the PC and APIS background (12.6 µg/m<sup>3</sup>) for the area and therefore the actual PEC is lower than 62%).

### **Atmospheric SO<sub>2</sub>**

The process contribution (PC) of SO<sub>2</sub> from the emissions from the site are 0.04 µg/m<sup>3</sup> which is 0.2% of the SO<sub>2</sub> critical level of 20 µg/m<sup>3</sup>. As the PC is less than 1% of the critical level, the emissions screen out as insignificant.

### **Nitrogen Deposition**

The process contribution to nitrogen deposition is 0.07 KgN/Ha/Year which is 0.7% of the critical load of 10 KgN/Ha/Year. As this is less than 1% of the critical load the deposition screens out as insignificant and will not lead to any significant damage to the features of this site.

## Acidification

The process contribution of acid deposition from atmospheric NO<sub>x</sub> and SO<sub>2</sub> was 0.01 keq/ha/year, which is less than 0.2% of the lower acid critical load\* and as such screens out as insignificant

*\*values from APIS, maximum total acid critical load of 4.856 keq/ha/year.*

## Noise

There is a potential mechanism through noise impact from the site, that may cause disturbance of the bird population. However the risk of noise impact from the site is deemed low risk for reason;

- The variation is on an existing permitted site, and located in an already industries area. The potential sources of noise from the site after the changes would not be significantly different to the existing sounds coming from the site. The change in site operations would therefore unlikely lead to any increase in risk of noise impacts over the existing operations.

## Conclusion

Air - All the emission parameters screen out and therefore, the emissions from the site is not likely to be present at levels that could damage the features (and supporting habitats) of the site.

The changes of the site are unlikely to change the types and levels of noise coming from the site over what is already carried out.

## 2 Dee Estuary / Aber Afon Dyfrdwy

Citation: [CYNGOR CEFN GWLAD CYMRU](#)

The site is designations are also outlined in the management statement; [Dee Estuary VAM-SMS - English - Confirm 14Jul06](#):

- Estuary including its habitats and processes
- Inter-tidal mud and sand flats
- Salt marsh
- Reeds and swamp/other freshwater transitions
- Maritime cliff with its associated heath land and grassland vegetation on Hilbre Island
- Hard inter-tidal habitat including rocky shores

- range of strandline, fore dune and mobile sand dune communities and the presence of sand hill rustic moth
- Coastal grazing marsh
- Birds - including wintering species such as shelduck, teal, pintail, wigeon, knot, black-tailed godwit, bar-tailed godwit, oystercatcher, dunlin, redshank, grey plover, curlew and great crested grebe
- Fish- Including sea lamprey and river lamprey
- Assemblage of higher plants

The main mechanism of impact are as follows;

- Emission to air of combustion products that could cause damage through toxic contamination, acidification and nutrient enrichment that can damage the supporting habitat. The emissions that can cause damage are as follows;
  - Oxides of nitrogen (NO<sub>x</sub>)
  - Sulphur dioxide (SO<sub>2</sub>)
  - Deposition of nitrogen from atmospheric NO<sub>x</sub>.
  - Acidification through deposition of atmospheric NO<sub>x</sub> and SO<sub>2</sub>
- Potential impacts for noise coming from the site that could cause disturbance.

There are no changes to the water discharge volumes or emission limits other than tighter limits on substances that previously permitted but not limited and as such no additional damage through this impact pathway.

For air impacts: As a conservative approach, in this assessment, we have used the lowest of the range of critical loads (CLo)\* for nutrient nitrogen deposition and acid deposition that are listed on the APIS website<sup>1</sup>. For this SSSI, these are:

- Nutrient nitrogen deposition – 10 kgN/ha/yr; and
- Acid deposition – Lower critical load (min CLMaxN) 4.856 keq/ha/yr, Upper critical load (max CLMaxN), 5.071 keq/ha/yr

## Atmospheric NO<sub>x</sub>

The long term process contribution of NO<sub>x</sub> emission would be 2.15 µg/m<sup>3</sup>, which is 7.16% of the critical level (30 µg/m<sup>3</sup>). The predicted environmental concentration (PEC) (using a background of 21.1 µg/m<sup>3</sup>) is 23.25 µg/m<sup>3</sup> (77.5% of the critical level). The PEC is below 100% of the critical level (at detailed modelling stage) and screens out. As such it can be concluded that the proposal would not cause any damage to the designated features of site through this mechanism. It should also be noted that the background used by the applicant (21.1 µg/m<sup>3</sup>) is much higher than the APIS value of 12.6 µg/m<sup>3</sup> and therefore presented a much higher PEC than what would actually be present.

<sup>1</sup> [APIS app](#) | [APIS](#)

The short term process contribution was 17.6 µg/m<sup>3</sup> (23.5% of the lower short term critical level of 75 µg/m<sup>3</sup>) under combined heat and power plant. As this was above 10% of the critical level the next stage was to check if the upper short term critical load of 200 µg/m<sup>3</sup> is applicable.

The PEC sulphur dioxide was below 2.94 µg/m<sup>3</sup> or 29.4% of the critical level of 10 µg/m<sup>3</sup> and there was no exceedance of ozone above AOT40 in North Wales (as reported table 4-6 [Annual Report 2024 Issue 1 Online Viewer - DEFRA UK Air - GOV.UK](#))

As the PEC of ozone and SO<sub>2</sub> did not exceed the critical levels, the use of the higher 200 µg/m<sup>3</sup> is appropriate under these circumstances. Applying the upper critical level of 200 µg/m<sup>3</sup>, the process contribution is 8.8% and the PEC is 38% of the upper critical level. Therefore the short term atmospheric concentration of NO<sub>x</sub> from the site will not lead to damage of the features of the designated site.

### **Atmospheric SO<sub>2</sub>**

The process contribution (PC) of SO<sub>2</sub> from the emissions from the site are 0.07 µg/m<sup>3</sup> which is 0.37% of the SO<sub>2</sub> critical level of 20 µg/m<sup>3</sup>. As the PC is less than 1% of the critical level, the emissions screen out as insignificant.

### **Nitrogen Deposition**

The process contribution was 0.22 kg/ha/year under the CHP scenario (1) and 0.159 kg/ha/year under boiler scenario. Both of these were above 1% of the critical load of 10 kgN/ha/Year (2.2% for CHP and 1.59% for boiler). The PEC under both scenarios were above 100% (196%).

The PC and PEC do not screen out, with the PEC having an exceedance due to the high background concentration. It should be noted that the background used in the air quality impact assessment was from 2020 (2019-2021). The latest APIS background from 2021 (2020-2022) and up to 2023 (2022-2024) have showed that the background had dropped from 18.3 KgN/ha/Year in 2020 to around 14.8 KgN/ha/Year in 2021, 2022 and 2023.

In addition the PEC in the applicant's assessment included in-combination for other plans or project for Special area of conservation but is not assessed for SSSI. Taking this into account the PEC (using 0.22 KgN/ha/Year and APIS 2021 background of 14.8 KgN/ha/Year ) would be 15.02 KgN/ha/Year or 150.2% of the critical load. Even at this reduced level the PEC is above 100% and therefore damage could occur. The salt marsh are sensitive to exceedance of nitrogen deposition.

However the following factors are considered;

- a) Backup boiler- The applicant had modelled on the assumption that the backup boiler would be running full time for the initial 6 months but the boiler would only be running less than 730 hours per year. As such the 1.17% would not likely occur as this has assumed full time and when the site is fully running. Adjusting the backup process contribution to 730 hours the long term nitrogen deposition would be 0.01

KgN/Ha/Year (0.1% of the critical load). A limitation will be put for the boiler to run only when the CHPs are not fully online.

**b) Variation to an existing permitted site.**

It should also be noted that this proposal is a variation to an existing permit that already had been permitted for emissions from combustion plants including two backup boilers (boiler 3 and boiler 6 that are 38MW and 45MW, giving total of 83MWth) and associated equipment on site.

The site was running under these conditions until 2021, and the background (latest APIS figure 2020-2022) would have captured these emissions.

**c) Changes to the existing biomass boiler (boiler 7)**

The changes to the site (as a substantial variation) has also initiated NRW and the operator to review of the existing biomass boiler (boiler 7), including review the emission parameter to the current BAT-AEL limits required by IED. This would reduce emissions from the existing biomass boiler (proposed to be 150-180 mg/m<sup>3</sup> from the current permitted 200 mg/m<sup>3</sup>) which was a major contributor to the NOx loading from the existing site. This is being done as a parallel application (PAN-032826)

Given that the new CHP and backup boilers are substituting existing permitted process, the initiation of a review to revise the existing boiler 7 and the overestimation of the modelling (on 3 rather than 2 CHPs) the proposed changes are unlikely to result in any increase in potential damage over the existing permitted activities. As such there is no new mechanism of impact to damage the features over the existing permitted activities.

**Acidification**

The highest process contribution of acid deposition was 0.03 Keq/Ha/year which is 0.52% of the lower acid critical load of 4.856 Keq/Ha/Year. As such the acidification screens out as insignificant.

**Noise**

There is a potential mechanism through noise impact from the site, that may cause disturbance of the bird population.

However the risk of noise impact from the site is low for reason;

- The variation is on an existing permitted site, and located in an already industries area. The potential sources of noise from the site after the changes would not be significantly different to the existing sounds coming from the site. The change in site operations would therefore unlikely lead to any increase in risk of noise impacts over the existing operations.

**Conclusion**

The air quality modelling had overestimated the impact under the CHP mode by the inclusion of a third CHP plant that will not be in the permit under this variation proposal. The third CHP is to be installed at a later date, which would be covered under a future permit variation. The boiler scenario while having impacts above 1% (1.17%) of the critical load, this was done on the assumption that it will run full time (8760 hours per year) in the modelling. The backup boiler will only run full time until the main CHP is online and is anticipated to run no more than 730 hours per year.

As such the actual impacts are likely to be lower than modelled

### 3 Afon Dyfrdwy (River Dee)

**Citation:** [CYNGOR CEFN GWLAD CYMRU](#)

The site is designations are outlined in the management statement; [Dee Site Management Statement](#) are as follows:

- 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 main impact pathway is through emissions to air. The geological features not sensitive and both are located more than 2 km from the proposal (outside the risk screening distance). Many water based species are not sensitive to atmospheric NO<sub>x</sub> but some land based species (otter) and habitats notably the Saltmarsh Transitional which are present in the area could be sensitive to emissions of NO<sub>x</sub> and nitrogen deposition and acidification.

As a conservative approach, in this assessment, we have used the lowest of the range of critical loads (CLo)\* for nutrient nitrogen deposition and acid deposition that are listed on the APIS website<sup>2</sup>. For this SSSI, these are:

- Nutrient nitrogen deposition – 10 kgN/ha/yr; and
- Acid deposition – Lower critical load (min CLMaxN) 3.94 keq/ha/yr.

### Discharge to water

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<sup>2</sup> [APIS app](#) | [APIS](#)

Although the site is changing its effluent treatment plant, the variation will not change any existing permitted emission limits, discharge volumes (Instantaneous flow, Maximum daily flow or Maximum tidal flow) other than imposing emission limits on substances that were previously permitted but not limited, including total phosphorus, total nitrogen and metals. As the variation will impose a more tight regulation over the previous permit, the variation will be abatement and no mechanism of impact over the existing discharge to water.

### **Atmospheric NOx**

The modelling showed that the worst case long term process contribution of NOx emission would be  $0.24 \mu\text{g}/\text{m}^3$ , which is 0.79% of the critical level ( $30 \mu\text{g}/\text{m}^3$ ). As the PC is less than 1% of the critical level, the emissions screen out from further assessment and it can be concluded that the proposal would not cause any damage to the designated features of site through this mechanism.

The short term process contribution was  $7.34 \mu\text{g}/\text{m}^3$  or 9.8% of the lower short term critical level of  $75 \mu\text{g}/\text{m}^3$ . As the short term process contribution is less than 10% of the short term critical level, the emission screen out as insignificant.

### **Atmospheric SO<sub>2</sub>**

The process contribution (PC) of SO<sub>2</sub> from the emissions from the site are 0.03% of the SO<sub>2</sub> critical level of  $20 \mu\text{g}/\text{m}^3$  (less than  $0.01 \mu\text{g}/\text{m}^3$ ). As the PC is less than 1% of the critical level, the emissions screen out as insignificant.

### **Nitrogen Deposition**

The worst case scenario, the process contribution was less than 0.04 KgN/Ha/Year or less than 0.4% of the critical load of 10 KgN/ha/Year. As the emissions is less than 1% of the critical load the emissions screen out as insignificant.

### **Acidification**

The highest process contribution of acid deposition was less than 0.01 Keq/Ha/year which is less than 0.1% of the lower acid critical load of 3.94 Keq/Ha/Year. As such the acidification screens out as insignificant.

### **Conclusion**

No mechanism of impact as all the emission screen out as insignificant

### **4 Natural England- Inner Marsh Farm SSSI**

The following SSSI(s) features and potential impacts have been considered to assess the likelihood of damage:

The site is designated for supporting a variety of wintering and summering bird populations.

Source of features: Natural England [citation for Inner March Farm](#)

The main mechanism of impact is through air emissions of

- oxides of nitrogen (NO<sub>x</sub>)
- sulphur dioxide (SO<sub>2</sub>)
- Deposition of atmospheric NO<sub>x</sub>.
- Acidification through deposition of NO<sub>x</sub> and SO<sub>2</sub>

Under the mechanisms of impact the closed on is 7 - Dumping, spreading or discharging of any materials – Through impact from emissions to air.

The site is not hydrologically connected to this SSSI and therefore no impact through this mechanism.

## **The air quality impact assessment**

### **Atmospheric NO<sub>x</sub>**

The modelling showed that the long term process contribution of NO<sub>x</sub> emission would be 0.74 µg/m<sup>3</sup>, which is 2.45% of the critical level (30 µg/m<sup>3</sup>). The predicted environmental concentration (PEC) is 15.2 µg/m<sup>3</sup> (51% of the critical level). As the PEC is less than 70% of the critical level, the emissions screen out from further assessment and it can be concluded that the proposal would not cause any damage to the designated features of site through this mechanism.

The short term process contribution was 5.4 µg/m<sup>3</sup> (7.2% of the short term critical level of 75 µg/m<sup>3</sup>) under combined heat. As the short term process contribution is less than 10% of the short term critical level, the emissions screen out as insignificant.

### **Atmospheric SO<sub>2</sub>**

The process contribution (PC) of SO<sub>2</sub> from the emissions from the site are 0.03 µg/m<sup>3</sup> which is 0.13% of the SO<sub>2</sub> critical level of 20 µg/m<sup>3</sup>. As the PC is less than 1% of the critical level, the emissions screen out as insignificant.

### **Nitrogen Deposition**

The process contribution to nitrogen deposition is 0.07 KgN/Ha/Year which is 0.7% of the critical load of 10 KgN/Ha/Year. As this is less than 1% of the critical load the deposition

screens out as insignificant and will not lead to any significant damage to the features of this site.

**Acidification**

APIS lists both features as not sensitive to acidity and no acid critical load is present. As supporting habitat of features are no sensitive to acid critical load, there is no mechanism of damage through this impact pathway.

**Noise**

There is a potential mechanism through noise impact from the site, that may cause disturbance of the bird population.

However the risk of noise impact from the site is low for reason;

- The activity is on existing permitted site, and located in an already industries area. Their activities are similar to what was occurring on the site. The potential sources of noise from the site after the changes would not be significantly different to the existing sounds coming from the site. The change in site operations would therefore unlikely lead to any increase in risk of noise impacts over the existing operations.

**Conclusions- Inner Marsh Farm SSSI**

No mechanism of impact as all the emission screen out as insignificant.

<p>6. Summary of any informal advice received from internal experts (if required and including pre-app advice)</p>	<p>N/A</p>
<p>7. Recommendation</p>	<p><b>1. Shotton Lagoons and Reedbeds</b></p> <p>The proposed permission is <b>not likely to damage</b> any of the flora, fauna or geological or physiological features which are of special interest</p> <p><b>2. Dee Estuary / Aber Afon Dyfrdwy</b></p> <p>The proposed permission is <b>not likely to damage</b> any of the flora, fauna or geological or physiological features which are of special interest</p>



	<p><b>3. Afon Dyfrdwy (River Dee)</b></p> <p>The proposed permission is <b>not likely to damage</b> any of the flora, fauna or geological or physiological features which are of special interest</p> <p><b>4. Inner Marsh Farm SSSI</b></p> <p>The proposed permission is <b>not likely to damage</b> any of the flora, fauna or geological or physiological features which are of special interest</p>
8. Signature and date assessment made	William Wallace
9. Officers name and job title	Senior Officer Installations and RSR permitting.

**Permitting**

**Formal Notification under Section 28I of the Wildlife and Countryside Act 1981**

Part 2 Formal notification under S28I – To be completed for all permit applications assessed as: not likely to damage because of conditions, likely to damage SSSI and those where we are unable to conclude no likely damage.

10. Date Notice of intention to permit activity likely to damage SSSI sent to NRW (SCNB)	<p><b>Insert date</b></p> <p>We have assessed that [permit ref/name of site] is likely to damage [insert name of SSSI] and</p>
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<p>If you assess activity as being likely to damage even if you think this can be mitigated by conditioning you need to formally notify SNCB send them a copy of this notice with part 1 of this form. Environment teams have 28 days to respond.</p> <p>Environment teams please complete question 11 and 12 using the information in questions 1-9</p>	<p>request your formal advice. We have assessed that this damage could be mitigated by including conditions[remove if not applicable].</p> <p>Or</p> <p>We are unable to conclude that [permit ref/name of site] is not likely to damage [insert name of SSSI] and request your formal advice.</p> <p>Information on the permit application can be found in Part 1 of this form and [include link to DMS documents if required]</p>
<p>11. Advice received from NRW (SNCB)</p> <p>Environment Teams and Marine Area Management and Advice Teams are expected to log and issue formal statutory advice through our CAMS system. The advice letter generated can simply be attached/appended here. ET/MAAMT can just refer to that here or write a summary of advice here too.</p> <p>To be completed by environment officers. Within 28 days of receiving notice from a permitting/licensing regime, you should advise whether the operation:</p> <ul style="list-style-type: none"> <li>• Should be allowed to proceed.</li> <li>• Should be allowed to proceed with certain conditions.</li> <li>• Should not proceed.</li> </ul> <p>Please ensure all advice provided is evidenced and comprehensive. Advice provided may be scrutinised as part of a formal appeal.</p>	
<p>12. Name and job title of conservation/marine officer (sign and date)</p>	
<p><b>Part 3 – To record NRW decision following SNCB Advice</b></p>	
<p>13. DECISION</p>	<p>The proposed permission is <b>not likely to damage</b> any of the flora, fauna or geological or</p>

<p>Provide reasoning for your decision and how you have considered advice from NRW(SNCB) in the box opposite and delete text in blue that is not relevant. This might be the same as the info and decision in part 1 of the form</p> <p>Large amounts of supporting information can be appended to this form.</p>	<p>physiological features which are of special interest</p> <p>The permission is <b>not likely to damage</b> any of the flora, fauna or geological or physiological features which are of special interest because of <b>conditions</b></p> <p><b>The permission is likely to damage</b></p>
<p>14. Natural Resources Wales (Section 28G Authority) (permitting service) is minded to</p> <p>Delete as appropriate</p> <p>If this decision is not in line with advice received from NRW(SNCB) please outline your reasoning (please note that you should try to resolve any differences in opinion)</p>	<p><b>Issue the permission</b></p> <p><b>Issue the permission with conditions to ensure no damage to SSSI</b></p> <p><b>Refuse the permission due to likely damage to SSSI</b></p>
<p>15. Is decision in line with advice from SNCB</p> <p>If your decision is not in line with the recommendations from SNCB you must formally notify them using the appropriate online form or letter.</p> <p>Record the date the notice/letter was sent opposite and save a link. The permitted operation cannot commence for 21 days following service of this notice.</p>	<p>Yes/No</p> <p>If No record date notice was sent to SNCB</p>
<p>16. Signature and date assessment completed</p>	
<p>17. Officers name and job title</p>	

