

Annex (iv) – SSSI Assessment Form

<p>SSSI Assessment for permit/licence and deployment applications</p>	
<p>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.</p> <p>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'</p> <p>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</p> <p>Blue text – examples, to be replaced with permission-specific information and text turned to black.</p>	

Part 1 – SSSI Assessment

1. Permitting officer/team	William Wallace Installation and RSR permitting
2. Permit application reference and site name	PAN-025645 (EPR/AB3093CA) Tremorfa Anaerobic Digestion Facility
3. a. SSSI name(s) b. location c. NRW Operational Area/Environment Team	a. Seven Estuary b. NGR c. Vale of Glamorgan & Cardiff environment team
4. Brief description of proposal	Welsh Water Organic energy are varying their permit for Tremorfa Anaerobic Digestion Facility (EPR/AB3093CA) to reflect the following changes to the site <ul style="list-style-type: none"> • Addition of a backup biogas boiler- to be used when the main combined heat and power plant is non-operational due to maintenance or breakdown • Addition of new waste- Sludges from on-site effluent treatment under the European waste code 02 02 04. • Amendments to the discharge point to sewer to correctly reflect the activities on site

The main impacts to the environment would be through emissions to air from the addition of the backup combined heat and power (CHP) plant.

The CHP plant will be used when the main boiler is non operation (due to either breakdown or maintenance) and would be limited in the permit to 500 hours per year.

The amendment to sewer discharge is to correct errors

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

The following activities are likely to cause damage:

Emissions to air of NO_x and SO₂ from the backup boiler. This can lead to damage through

- 1) Increase atmospheric concentrations of NO_x and SO₂
- 2) Nitrogen deposition of NO_x
- 3) Acidification through the deposition of acidic gases (NO_x and SO₂)

All process effluent are discharge to sewer under a trade effluent consent and treated at Cardiff waste water treatment works. The variation is to update the discharge table to better reflect the set up on site, however the emission limits on the trade effluent consent remain unchanged and should not affect the effluent discharge to either sewer or from the final effluent treatment plant.

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

- Intertidal mud and sand
- Rocky shores
- Saltmarsh
- Reed and Swamps
- Eel Grass beds
- Assemblage of birds
- Assemblage of fish
- Assemblage of invertebrates
- Flood plain grazing marsh

Feature were taken from the following document: "[View about management/management Statment for Severn Esutray site of special scienfic interest \(SSSI\)](#)"

The applicant has provided detailed air quality modelling to support their application and to assess the risk of impact from the proposal. The applicant has under taken a conservative approach with the modelling assuming worst case scenarios

Increase atmospheric concentrations of NO_x and SO₂

NO_x emissions: The highest short term process contribution to the Severn Estuary was 1.79 µg/m³ which is 2.38% of the (lower) short term critical level of 75 µg/m³. As the short term process contribution is less than 10% of the short term critical level the emissions screen out as insignificant.

The highest long term process contribution is 0.321 µg/m³ which is 1.07 % of the long term critical level of 30 µg/m³. The predicted environmental concentration at this location (background of 15.6 µg/m³) is 53.1% of the critical level and as such screens out. It should also be noted that the applicant had taken a conservative approach and the modelled long term impacts on the assumption that the unit is running 8760 hours per year but the unit is only to run less than 500 hours per year as a backup and as such the impacts predicted are far higher than what the unit would be running at.

SO₂ emissions: The highest process contribution was 0.161 µg/m³ which is 1.61% of the critical level of SO₂ (10 µg/m³). The predicted environmental concentration (using the APIS background of 3.2 µg/m³) is 33.6% of the critical level. As such the emissions of SO₂ screen out as insignificant. As with NO_x, the applicant had modelled on the assumption of the site running 8760 hour per year (when it will only run as a backup less than 500 hours per year). As such the impacts are would be far lower than what the applicant had shown in their modelling and the model (under a far higher impact scenario) showed the emissions screened out.

Impact of nitrogen deposition:

The highest nitrogen deposition was 0.00757 kgN/Ha/Year which is less than 1% (0.076%) of the lower critical load of 10 kgN/Ha/Year and as such screen out as insignificant. Given the very low predicted process contribution under worst case scenario (operating for 8760 hours rather than the 500 hours permitted) and operating as a backup when the main boiler is non operational.

Impacts of acid deposition

The highest long term acid deposition (operating under 8760 hours rather than the 500 hours permitted) was predicted to be 1.69% of the lower acid critical level and predicted environmental concentration was 130% of the lower acid critical level.

However when the process contribution was adjusted for the fact that the site would only be permitted to operate the boiler for 500 hours per year (the applicant using a reduction factor of 0.0571) the process contribution is less than 0.1% of the long term lower acid critical level and therefore screens 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>The proposed permission is not likely to damage any of the flora, fauna or geological or physiological features which are of special interest</p> <p>The model had been run on the assumption that the boiler would be running full time (8760 hours per year) when the boiler would only be used as a backup limited to <500 hours per year.</p> <p>With the exception of acid deposition (keq/ha/year), all emissions screen out as insignificant under the 8760 hour scenarios. Acid deposition impacts screens out as insignificant when adjusted to the 500 hours maximum that the boiler would be permitted to operate to. The boiler is a backup unit.</p> <p>With the sewer discharge there are no changes to operation of the discharge. The permit is correcting the details on the discharge points but any parameters in permit and the trade effluent consent will remain unchanged.</p> <p>Given the modelling has shown that both the long term impacts (annual) and short term impacts screen out as insignificant, the proposal is not likely to lead to any damage to the features of the Severn Estuary SSSI.</p>



8. Signature and date assessment made	William Wallace 13/03/2025
9. Officers name and job title	William Wallace Senior Officer, Installation 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)	N/A -See Part 1
11. Advice received from NRW (SNCB)	
12. Name and job title of conservation/marine officer (sign and date)	

Part 3 – To record NRW decision following SNCB Advice	
13. DECISION	
14. Natural Resources Wales (Section 28G Authority) (permitting service) is minded to	
15. Is decision in line with advice from SNCB	
16. Signature and date assessment completed	
17. Officers name and job title	