



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:	South Central
2. Name of SSSI:	Severn Estuary (Wales) SSSI
3. Type of permission:	Environmental Permit
4. Date for Natural Resources Wales permit determination:	27/04/2022 (determination deadline) 29/07/2022 (predicted final determination date)
5. Predicted 28 day date for response from NRW conservation/ecology (under S28 I(4)):	13/06/2022
6. Natural Resources Wales reference no:	EPR/BX8289IW/V004
7. National grid reference:	ST 20387 75704

8. Description of proposal:

Princes Limited operate an installation in the East Moors industrial area of Cardiff that produces a variety of fruit juices and fruit juice drinks from fruit juice concentrate and mains water which are packaged in cartons. This activity is currently permitted under EPR-BX8289IW falls under Schedule 1 of the Environmental Permitting (England & Wales) Regulations 2016 as a S6.8 A1(d)(ii) activity.

The operator of the permit has applied for a substantial variation to the permit to:

- Add a second natural gas-fired boiler plant with a 4.02 MWth input and associated point source emission to air (A2)
- Add point source emissions to air of steam from the filler lines listed as emission points A3 to A9
- Add point source emissions to air for hydrogen peroxide from packaging sterilisation to be listed as points A10 to A16
- Relocate the point source emission to foul sewer (S1) and expansion of the Environmental Permit boundary to accommodate this.

The site will also apply the relevant best available techniques (BAT) from the Food Drink and Milk BAT Reference (BRef) published on the 12th November 2019.

Carbon monoxide and hydrogen peroxide do not have an environmental quality standard and have not been assessed in this appendix 4.

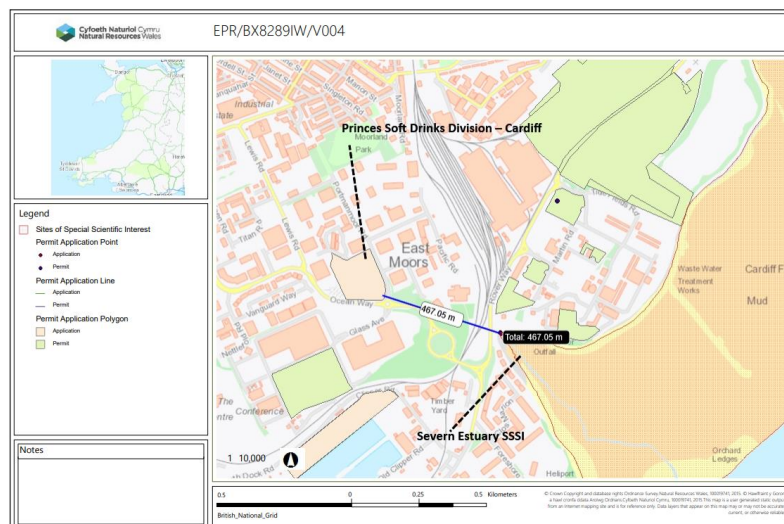
As part of the variation application, the applicant has completed detailed air dispersion modelling which will be used to inform this assessment. The detailed air dispersion modelling includes existing and new point source emissions to air. The report presents emission rates based conservative assumptions such as:

- Operating at 100% of the ELVs (Environmental Limit Values i.e. the maximum permitted rates) as required by Table 1 of Part 1 (existing boiler), and Table 1 of Part 2 (proposed) of Annex II of the Medium Combustion Plant Directive.
- The plant running 24 hours a day, 7 days a week, 365 days per year

There are no changes to any other point source emissions to air, land or water proposed as part of the variation.

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

No – The Severn Estuary SSSI is located 450 meters from the installation boundary.



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.

7. *Dumping, spreading or discharging of any materials* - Through the emissions of NO_x from new combustion plant.

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

The Severn Estuary lies on the south west coast of Britain at the mouth of four major rivers (the Severn, Wye, Usk and Avon) and many lesser rivers. The immense tidal range (the second highest in the world) and classic funnel shape make the Severn Estuary unique in Britain and very rare worldwide. Designated features include:

- Estuary Process
- intertidal mud and sand
- Rocky shores
- Saltmarsh
- Reeds and swamp
- Eel grass beds
- Assemblages of birds
- Assemblages of fish
- Assemblages of invertebrates
- Flood plain grazing marsh

The new gas-fired boiler will emit NO_x. This may lead to potential long term and short term NO_x (NO and NO₂ expressed as NO₂) airborne impacts ("Toxic Contamination"), potential long term nutrient nitrogen deposition ("Nutrient Enrichment") and potential long term acidity deposition impacts ("Acidification"). Deposition of NO_x can also cause "Smothering". Each of these impact pathways will be discussed below in more detail using information from the air dispersion modelling submitted by the applicant.

Toxic Contamination

The main pathway of toxic contamination to the site is through the emissions of NO_x. The air dispersion modelling at the nearest point of the SSSI shows that the process contribution as 2.87% (above 1%) of the minimum critical level for the site which means that this does not screen out as an insignificant. However, this is in itself not significant enough to likely cause damage to the features of the SSSI. The predicated environmental concentration (PEC) is calculated to be 107% of the minimum critical level, with a background of (31.17 µg/Nm³, 104% of the critical level). The exceedance in the background is the cause of the high predicted environmental concentration at the point nearest to the of the SSSI to the installation. Although this is a small proportion of the SSSI there are designated features in this area. It should be considered however that the modelling also assumes worst case scenario with the medium combustion plant operating at the emission limit value and in continuous operation for the whole year (24 hours per day). The realistic operations are likely to be less than this and the process contribution would be lower than the modelled value.

Nutrient Enrichment and Smothering through deposition of NO_x

The main pathway of smothering and nutrient enrichment is through the deposition of NO_x at the nearest point to the SSSI using the lower critical load of 15 KgN/Ha/yr showed a process contribution of 0.12 KgN/Ha/yr which is 0.80% of the critical load. As the process contribution is less than 1% it can be screened out as an insignificant emission and will not cause any significant damage to the designated features of the SSSI through these impact pathways.

Acidification

The SSSI has designated features, notably vegetation that is sensitive to acidification. The main impact pathway is the deposition of NO_x from the emissions of can lead to increase acidification of the site. The air dispersion modelling for acid deposition from the site, provided by the applicant shows that the maximum process contribution at the nearest point of the SSSI to the installation was 0.81% of the total critical load acid for the site (using the lowest acid critical load value for the site). As this is less than 1% of the total critical load for acid deposition it can be concluded that the acid deposition from the site screens out as an insignificant (using worst case scenario) and therefore would not have any significant impact on the site.

12. 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.

The model showing worst case scenario shows that both acid and nitrogen deposition from the proposed NO_x emissions screen out as insignificant (<1% of critical load) and will not cause damage to the designated features through either acidity, nitrogen deposition or smothering.

For the toxic contamination, given that (as noted by the applicant) the background NO_x concentration is already exceeding the long term critical level and only in the small area of the SSSI closet to the emission point. In comparison the PC from this proposal is small. The modelling has been based on highly conservative assumptions such as NO_x being emitted at 100% of the ELV, 24 hours a day, 365 days of the year. In reality, an Emissions Monitoring Survey (taken in July 2021) has shown that actual emissions will be much lower and highlights how conservative the applicants original modelling is.

Therefore, we do not consider emissions from this proposal to be significant.

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

13.Name and job title of Natural Resources Wales officer:	William Wallace Permitting Officer Installations and RSR
14.Date form sent to NRW conservation/ecology	16/05/2022
For Natural Resources Wales use only, once NRW conservation/ecology response received	
15.NRW conservation/ecology comment on assessment:	<i>Please delete as appropriate:</i> i) NRW conservation/ecology advise the operation can go ahead ii) NRW conservation/ecology advise the operation can go ahead with conditions iii) NRW conservation/ecology advise against permitting the operation Please ensure that the NRW conservation/ecology response is attached to this Formal Notice.
16.Name and job title of NRW conservation/ecology officer:	
17.Date of receipt of NRW conservation/ecology response:	