

**CROW Appendix 4**

**The CROW Act 2000 and Environment Agency Application for Permission - Formal Notice**



**Environment Agency Formal Notice To Natural England/Countryside Council For Wales**

Requirements of section 28I of the Wildlife & Countryside Act 1981 as incorporated by the Countryside and Rights of Way Act (CROW) 2000.

Duty in relation to granting any consent, licence or permit for activities to be carried out in or capable of affecting Sites of Special Scientific Interest (SSSI).

*To be completed by permitting officers. Refer to the Environment Agency's CROW Act guidance and flow chart (Appendix 2- 'The CROW Act 2000 and Environment Agency Permissions'). You must refer to the Operations Likely to Damage (OLD) list for the SSSI.*

Complete this form for any proposed permissions which the Environment Agency is minded to approve, having taken account of the Agency's S28G duties to protect and enhance SSSIs.

This applies to all proposed permissions both within and outside a SSSI boundary which are likely to damage its special features.

1. Environment Agency region and area office:	Wales, Ty Cambria, Cardiff
2. Name of SSSI(s):	Blackwater Estuary, Colne Estuary and Dengie
3. Type of permission:	Environmental Permit – Water Discharge Activity
4. Date for Environment Agency determination:	4 <sup>th</sup> December 2011
5. Predicted 28 day date for NE/CCW response (under S28 I(4)):	24 <sup>th</sup> November 2011
6. Environment Agency reference no:	EPR/DP3127XB
7. National grid reference:	TL9965009150

<p>8. Description of proposal:</p>	<p>Bradwell Nuclear site is in the process of being de-commissioned. During the current phase, most of the plant and buildings on the site are to be dismantled. The application is for the discharge of dissolved Fuel Element Debris into the Blackwater Estuary. The FED comprises the protruding parts of the outer casing which housed the nuclear fuel and which were consequently cut off to improve packing efficiency when the spent nuclear fuel was transported to Sellafield. The FED will be dissolved in a dilute nitric acid solution which will then be neutralised. Solids then precipitate out of the solution and effluent is filtered to remove suspended solids. After this adsorption and ion exchange techniques will be used to take out heavy metals and remove radioactive substances from the liquid. The batches of treated effluent will then be held in a tank for sampling and analysis prior to discharge. Each day a total of approximately 10-30m<sup>3</sup> (for the purpose of the permit, 30m<sup>3</sup>/day max is assumed) of effluent will be produced. The effluent will be discharged over a 30minute period into a carrier flow of seawater during the first 90minutes of the ebb tide to ensure that the discharge exits the outfall tunnel and maximum dispersion out into the estuary. The carrier flow of seawater dilutes the effluent by about 50:1 prior to the discharge to the estuary.</p> <p>Two stages of assessment were carried out. In the first stage assessment before the effluent is discharged the listed metal levels in the effluent were compared to only 1% of the EQS to ensure that any additional metals from the discharge have an insignificant impact upon the water quality of the estuary. The second stage assessment looked at the final effluent once it had reached the estuary using the 10% no deterioration policy.</p> <p><i>The discharge is time limited. It will start on the 1<sup>st</sup> March 2012 and will be surrendered in 2014.</i></p>
<p><b>9. Is the proposed activity within (wholly or partially) the SSSI boundary?</b></p>	<p><i>Please delete as appropriate</i>                      <b>YES</b></p>
<p><b>10. What aspect of the proposed permission is likely in the Environment Agency view to adversely affect the notified interest of the SSSI?</b></p> <p>None. Increased nutrients are a concern for increasing the growth of algal mats which could have a potential impact on the nationally important water fowl that over winter in the area. The Blackwater Action Plan (2009) suggest that algal mat growth occurs during the summer and the majority of the waterfowl are present over winter. The BAP also concluded that there was no specific evidence of the benthic invertebrate community (which the water fowl feed on) being compromised in either distribution or extent as a consequence of different algal mat cover or biomass.</p> <p>Modelling showed that the discharge will represent about 6% of the existing inorganic nitrogen loading to the Blackwater and Colne estuaries. This is not considered to be significant in the context of increased risk of eutrophication given that the discharge is temporary and will only occur for 1 year.</p> <p>With regard to metals in the discharge, all substances met their EQS within 100m of the discharge point or at the discharge point, with the exception of silver. The exceedances for silver are only for the 1% target of the EQSs (MAC and AA). The percentage of the EQS at 100m is between 4.8 and 7.8% of the AA EQS for springs and neaps respectively and between 3 and 4.3% of the MAC EQS for springs and neaps respectively. The 'no deterioration' of 10% of the background is not exceeded and the proposed levels are acceptable.</p> <p>Given the nature of the discharge, the available dilutions within the carrier pipe and further dilution within the Blackwater Estuary and the compliance with EQS limits, it is considered to have no adverse effect on the Blackwater, Colne and Dengie SSSI's.. Nutrient levels will increase for a short term but this is not considered to be significant in the context of increased risk of eutrophication over a long period of time.</p>	

11. Name and job title of Environment Agency officer:	Katrin Raynor <b>Permitting Officer</b>	Date form sent to NE/CCW: 27 October 2011
For Environment Agency use only, once NE/CCW response received		
12. NE/CCW comment on assessment:	<p><b>Please delete as appropriate:</b></p> <p>1) <del>No comment/advice</del>  2) <del>Assent given</del>  3) Assent given with conditions  4) <del>Assent refused</del></p> <p><b>Please ensure that the NE/CCW response is attached to this Formal Notice.</b></p> <p>Natural England has reviewed the information as submitted. Given the stated intention for discharge to occur for 30 minutes per day into an ebb tide we are satisfied that sufficient mixing, and therefore dilution is occurring to minimise any impacts upon the designated sites. We will expect to see baseline monitoring throughout the year period in which discharge is occurring to ensure dilutions are occurring as anticipated. To conclude, we are satisfied to give assent subject to the inclusion of the above recommendations.</p>	
Name and job title of NE/CCW officer:	Catherine Whitehead	<b>Date of receipt of NE/CCW response:</b> 24/11/11