

Form

Record of a Habitats Regulations Assessment of a project

OGN 200 Form 1

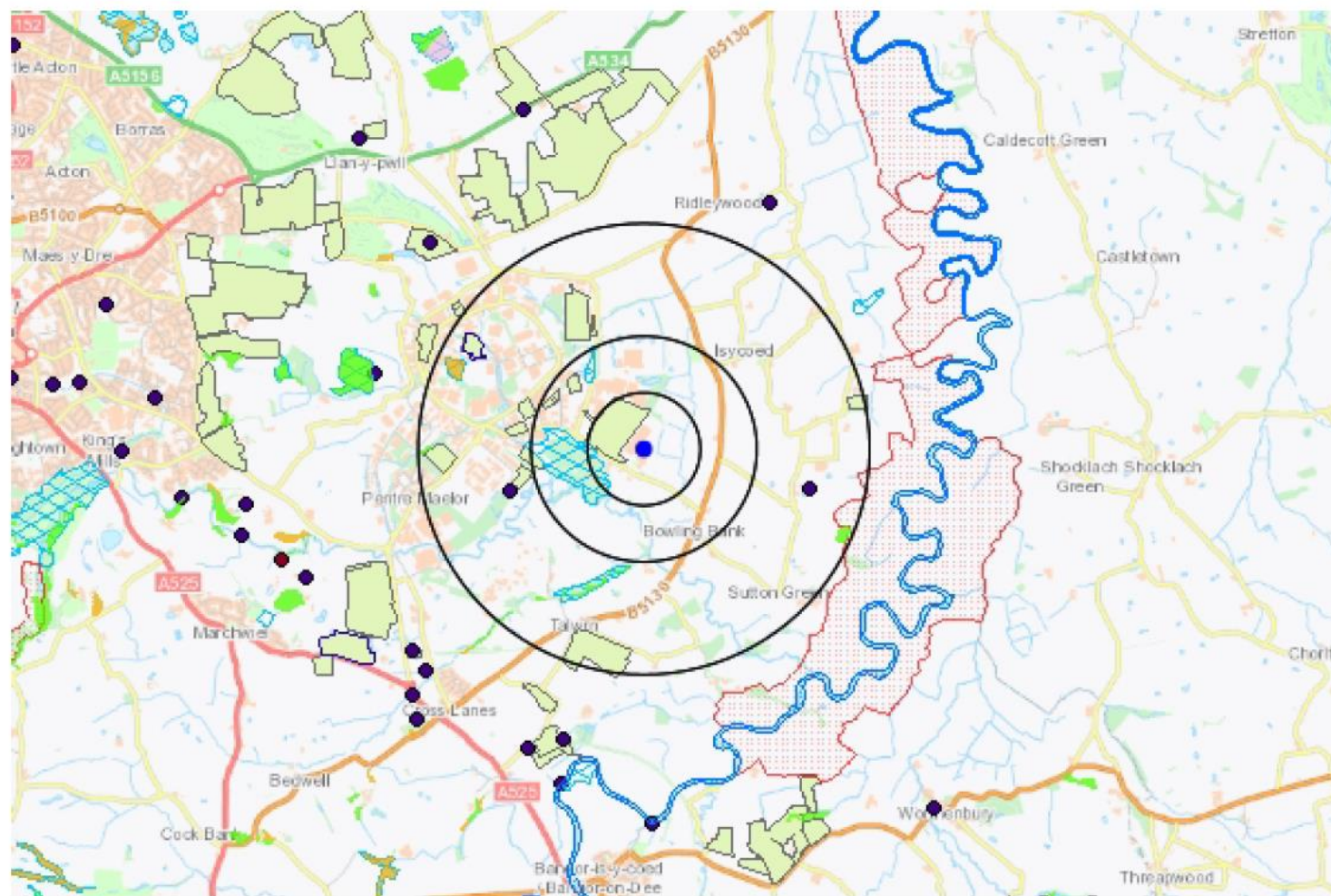
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1. Project Details

1(a): Project details where an external party has applied to NRW for any form of authorisation	
Application reference number (if applicable)	<i>PAN-015191</i>
Date application received	<i>01/09/2021</i>
Applicant details	<i>James Jones & Sones (Pallets and Packaging) Limited</i>
Activity proposed	<i>Installation of a 2.1MW_{th} (input) combustion unit which is fuelled on chipped wood comprising a mixture of virgin timber and waste wood, and is therefore classified as a Medium Combustion Plant (MCP) and Small Waste Incineration Plant (SWIP) and requiring an environmental permit from NRW.</i> <i>This modest scale boiler will raise water/steam for process and building heating associated with the operator's main activities on the site – i.e. kilns for thermal treatment of pallets etc. As an indication, 2.1MW boiler requires ~ 480 kg/hour of fuel at maximum rating. The boiler is expected to run 24/7 (other than maintenance etc) and operate between 50-100% of maximum load depending on heat requirements.</i> <i>As it will burn only “excluded” (low risk) waste it is exempt from the full requirements for waste incineration plant laid out in the Industrial emissions directive and therefore emission limits imposed are from the MCP directive. All fuel will be sourced within the James Jones operations, either on this site or brought from their other manufacturing sites by roads. Emissions will be via an 18m high stack, which has been sized in order to reduce pollutant impacts at ground level to an acceptable level. As a MCP-SWIP the scope of the regulated activity is the combustion unit and emissions to air only – ancillary activities such as waste wood handling, process and storage are subject to separate regulation. The facility will meet BAT (Best available technique) for the type of facility, will operate using a computer-controlled system with automatic fail-safe devices, and have in place both NO_x reduction techniques and a bag filter for pollution control.</i>
Relevant legislation	<i>The Environmental Permitting (England and Wales) Regulations 2016 (“EPR”), and hence the Medium</i>

	<i>Combustion Plant Directive, in addition to The Conservation of Habitats and Species Regulations.</i> <i>We understand that there is a parallel application to the local authority (Wrexham) for a “Part B” EPR for the associated manufacturing activity – i.e. the production of pallets and packaging from wood. This determination is separate from the NRW one</i>
Location	<i>James Jones Wrexham Biomass Boiler</i> <i>Larch House</i> <i>Oak Road</i> <i>Wrexham Industrial Estate</i> <i>Wales</i> <i>LL13 9RG</i> <i>NGR: 339376, 349347</i> <i>General Orientation map (Wrexham to the North West) – showing nearest protected sites and permitted facilities in general outline:</i>



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Application documents

NRW Internal DMS: [Link](#)
Public register (External): [Link](#)

Environmental
Statement

N/A

Pre-application correspondence	<u>N/A</u>
NRW team responsible for drafting this HRA report, and name of lead officer	<i>David Poole, Installations & RSR Permitting</i>

2. Determining the need for a Habitats Regulations Assessment

2.1 Is the whole of the project directly connected with or necessary to the management of one or more Natura 2000 sites, for the purposes of conserving the habitats or species for which the Natura 2000 site(s) is/are designated?	No <i>If No, go to row 2.3</i>
2.2 Is there a possibility that the project could affect a different Natura 2000 site to the one(s) the project is intended to conserve?	
2.3 Is it necessary to carry out an HRA?	Yes

3. Considering the likelihood of a significant effect (LSE)

3.1 Renewal of a permission on the same or more restrictive terms as the extant permission

Is this project a renewal of a current permission which complies with NRW approved criteria for ruling out significant effects of renewals (see section 6.2A of OGN 200) without conducting a project-specific LSE test?	No
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3.2 Likelihood of significant effects (LSE) test

3.2.1 Which Natura 2000 sites might be affected by the proposal?	Based on the project specification or information provided in the application, it is considered that the following Natura 2000 sites have features which could be affected by the project: • SAC UK003025 River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid ~2.3 km from proposed facility at closest point • Ramsar UK11080 Midland Meres & Mosses Phase 2 ~ 5.3 km from proposed facility at closest point • SAC UK0030173 Johnstown Newt Sites SAC ~8.4 km from proposed facility at closest point. As the River Dee protected site is on the England/Wales border, consultation will be both with the relevant NRW environment team, and with Natural England.
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3.2.2 Screening assessment

Scope / Introduction (all sites/interest features):

The only possible relevant impact pathway from the proposed MCP-SWIP facility is from aerial emissions from combustion of solid fuel (wood). Of the pollutants identified as emitted from the facility (NO_x, Particulates, Volatile organic Compounds – VOC, and carbon monoxide, only NO_x has an environmental standard for protected habitats / ecological sites. Potential impacts from atmospheric NO_x concentration itself, and possible related/consequential impacts of acid/nitrogen deposition must be considered, as detailed below.

There is a theoretical impact from particulate emissions- PM (applicable to all sites/features), but this can be excluded as no impact pathway, based on magnitude of possible emission and distance to receptors, as explained: There is no Environmental Standard for PM for ecological protected sites, the only mechanism of potential harm is via smothering/deposition, which is more relevant to fugitive dust from mechanical sources dust such as from quarries and construction/demolition. Relevant guidance is that such effects can generally be ignored if distance is >50m from source to potential receptor. Thus impact can be screened out for all protected sites. Also note that the maximum emission of particulate would be 50mg/m³ from the stack, a level which would cause no credible impact on deposition/smothering, even if within the habitats site. For other pollutants with no conservation site Environmental standard (VOC, CO), no further assessment is required as there is no impact pathway as no defined impact/receptor.

There are no water emissions from the proposed facility therefore no mechanisms of impact for a large number of hazards which are routinely screened for during installation permitting (e.g. pH, changes to thermal regime etc)

Further risk screening is as detailed below.

Colour coding used in the 'impact pathway' column II as follows:

There is no impact pathway from the proposal to the designated feature

There is an impact pathway in principle, but significant effects from the proposal when considered alone can be ruled out

There is an impact pathway and significant effects cannot be ruled out

Interest Feature(s)	Assessment of likelihood of significant effect		
	I Relevant conservation objectives	II Potential impact pathway	
SAC UK003025 River Dee and Bala Lake ~2.3 km from proposed facility at closest point (Management units 9-10 closest)			
<i>All interest features (for screening) – all management units, with potential sensitivity to atmospheric pollutants with a critical level</i>	All air quality pollutant critical levels for protected sites – for screening purposes. There are no conservation objectives which specifically reference air emissions or pollutant concentrations - limits considered are	The applicant has submitted detailed air dispersion modelling for the primary emissions of concern, including NO _x (Oxides of Nitrogen) and particulate as considered below. While Carbon monoxide and VOC are considered for human health, there is no ecological standard for these pollutants, so no further assessment is required as there is no impact pathway.	

Note: River Dee SAC is split into Management units owing to its length. Management units 9 and 10 are nearest the proposed MCP, with 8-12 within 10 km screening distance. For screening purposes, the point of maximum air pollution impact at any point on the Dee is considered, which occurs where the Dee runs closest to the site, to the east of the proposed facility.	those applied to all SACs and listed on the APIS website. The only critical level relevant to emissions from the proposed boiler are for NOX, of 30 µg/m³ in ambient air at protected habitats	Toxic contamination – ambient NO_x Although NO_x will be present in air emissions, significant effects from toxic contamination can be ruled out on the basis of small size of maximum projected impact at the protected site. The emissions are limited by BAT and MCPD Emission limit values, and the resultant modelled impact at the Dee is a maximum of 0.052 µg/m³ on an annual basis, or <0.2% of the environmental standard (ES) of 30 µg/m³. This is well below the 1% threshold used for assessing potential significance of the process contribution (PC) from a source. Similarly, the PC for the short term NO_x impact is 0.7% of the ES – insignificant when assessed against a 10% threshold for short-term standards. Significant effects alone can be ruled out. Smothering -effect of dust/particulate emissions Effects from particulate emissions (leading to smothering) can be ruled out as no credible impact pathway owing to the very small scale of emission, and distance from source to receptor, combined with the fact that there is no ES for particulate for protected sites hence no credible mechanism of impact. Risk is negligible or lower. Further detail is given above. Changes in thermal regime, changes in salinity regime, Habitat loss, Physical damage by IPC/PPC process, turbidity, siltation No impact pathway as MCP is not within the SAC and there is no mechanism of harm for these criteria – including no water discharge only air emissions.	
<i>Interest features with potential sensitivity to Nutrient Nitrogen or acid Deposition (Luronium natans directly sensitive, Cottus gobio, Lampetra fluviatilis, Lampetra planeri, Lutra lutra, Petomyzon marius and salmo salar all identified as having “site specific” potential</i>	The management plan does not give any specific deposition critical loads, but potential sensitivity is indicated as described. APIS indicates a sensitivity to nutrient nitrogen of 3-10 kgN/ha/yr for feature Luronium natans. However, examination of the core management plan for the SAC shows that the Luronium natans is only present in	The applicant’s air dispersion modelling and impact assessment includes nitrogen and acid deposition calculation. The applicant has not identified any specific nutrient nitrogen or acid sensitivity / critical load as per basic APIS information for the River Dee SAC near the site, but has calculated maximum N and acid deposition within the Dee SAC. NRW has taken the precautionary approach of screening against the lowest critical load that could credibly be applicable to the protected site to confirm that any potential impacts are insignificant: Nutrient enrichment - Nutrient nitrogen deposition The maximum modelled nutrient nitrogen impact on the Dee is 0.005 kgN/Ha/yr. Using the lowest possible Critical Load (CL_o) for nitrogen (both on the Dee – unit 2,	

<i>sensitivity to N and acidity via potential impacts on the broad supporting habitat,)</i>	management unit 2, which is some 20km and upstream from the proposed facility, therefore as outside 10km screening distance, any potential effect can be excluded as “no impact pathway”. Apis indicates a potential sensitivity both to acid and nitrogen deposition for the species listed to the left via potential impact on the broad supporting habitat. At least one of the interest features are present in all management units of the SAC. However, no critical levels are identified. A highly precautionary screening approach is taken, as explained to the right.	Luronium natans, and for any protected site) of 3 kgN/Ha/yr, the maximum process contribution is 0.16% of the critical load, which can be considered insignificant against a 1% screening threshold. Thus significant effects alone from nutrient enrichment can be ruled out owing to process contribution well below the significance threshold. This assessment is highly precautionary, as it considers a maximum PC in the vicinity of Wrexham industrial estate, whereas the established sensitivity is >20km away upstream – management Unit 2, which could reasonably be excluded as “no impact pathway”. Similarly any more local likely significant effect from indirect on broad supporting habitats can be excluded, without need for consideration of any specific N critical loads – 3 has been used, and is the lowest found for any sensitive receptor within Apis. Toxic contamination – acid deposition Direct significant effects from toxic contamination (acid deposition from NO_x emissions) can be ruled out as there are no interest features with specific sensitivity to acid deposition as listed on Apis. However, indirect impact on broad supporting habitat is listed as possible on APIS for the same species as for N deposition, again no acid critical load is provided. The modelled maximum acid impact on the dee, of 0.00033 keq/ha/yr has been assessed using an arbitrary extremely low acid sensitivity (Min Cl Min N) of 0.1 kgeq/ha/yr (as obtained using a search of multiple sensitive sites and features across Apis database). Even taking this most precautionary indicative approach, the calculated PC is 0.33%, i.e. insignificant against a 1% threshold– thus meaning that even with “worst-worst case” assumptions, the theoretical impact has no likely significant effect and no further assessment is required.	
Ramsar UK11080 Midland Meres & Mosses Phase 2 ~ 5.3 km from proposed facility at closest point			
<i>All interest features (for screening) – all management units, with potential sensitivity to atmospheric pollutants with a critical level</i>	All air quality pollutant critical levels for protected sites – for screening purposes. There are no conservation objectives which specifically reference air emissions or pollutant concentrations - limits considered are	The applicant has submitted detailed air dispersion modelling for the primary emissions of concern, including NO_x (Oxides of Nitrogen) and particulate as considered below. Toxic contamination – ambient NO_x Modelling NO_x is as described above for the Dee. The resultant modelled impact	

	those applied to all SACs and listed on the APIS website	at Midland Meres and Moses Ramsar in proximity of the site (5.3km away) is a maximum of 0.028 µg/m³ on an annual basis, or <0.1% of the environmental standard (ES) of 30 µg/m³. This is well below the 1% threshold used for assessing potential significance of the process contribution (PC) from a source. Similarly, the PC for the short term NOX impact is 0.7% of the ES – insignificant when assessed against a 10% significance threshold. Significant effects alone can be ruled out. Smothering -effect of dust/particulate emissions Likely Significant effects from particulate emissions (leading to smothering) can be ruled out as above. Changes in thermal regime, changes in salinity regime, Habitat loss, Physical damage by IPC/PPC process, turbidity, siltation No impact pathway as MCP is not within the SAC and there is no mechanism of harm for these criteria – including no water discharge only air emissions.	
<i>Interest features with potential sensitivity to Nutrient Nitrogen or acid Deposition</i>	The information on the Ramsar plan does not give any specific deposition critical loads, but potential sensitivity is indicated as described on a reasonable worst-case basis: The applicant has identified a Nitrogen critical load of 10 kg/ha/yr, and has not identified any acid sensitivity. The information on the site sensitivity is complex, with different documents indicating potential N and acid critical load sensitivity. For permit determination purposes, NRW permitting have screened the modelled emissions impact against the lowest possible critical loads to determine likely significant effect.	The applicant's air dispersion modelling and impact assessment includes nitrogen and acid deposition calculation. They have identified a nutrient nitrogen CLo of 10 kg/ha/y but no acid sensitivity for the site, but have calculated both maximum N and acid deposition within the Ramsar. NRW has taken the precautionary approach of screening against the lowest critical load that could credibly be applicable to the protected site to confirm that any potential impacts are insignificant: Nutrient enrichment - Nutrient nitrogen deposition The maximum modelled nutrient nitrogen impact on the Dee is 0.002 kgN/Ha/yr. Using the lowest possible Critical Load (CL_o) for nitrogen (for any protected site) of 3 kgN/Ha/yr, the maximum process contribution is 0.07% of the critical load, which can be considered insignificant against a 1% screening threshold. Thus significant effects alone from nutrient enrichment can be excluded. This assessment is highly precautionary as it assumes the highest possible nutrient nitrogen sensitivity for the site, as readily available information is incomplete. Toxic contamination – acid deposition	

	The NRW Midland Meres and Mosses Ramsar information page. Provides a link to the Fenn's, Whixall (etc) SAC. Although a similar habitat type, it is not clear if these limits apply to the Ramsar. For screening, it is assumed that these limits may apply to the Ramsar and thus a worst case acid critical load of 0.1 kgeq/ha/yr is applied. This document indicates a Nitrogen deposition critical load of 5-10 kg/ha/yr, but a value of 3 is used for screening purposes, being the lowest applied to any protected site.	Using the highly precautionary approach already described, and using the reasonable worst case low acid critical load for Fenn's and Whixall (etc) SAC acid critical load of 0.1 kgeq/ha/yr, the process contribution has been calculated. The modelled maximum acid impact on the Ramsar, of 0.00016 keq/ha/yr is 0.16% of the lowest potentially applicable environmental standard. Even taking this most precautionary indicative approach, the calculated PC is insignificant against a 1% threshold– thus meaning that there is no likely significant effect in any credible scenario and no further assessment is required.	
SAC UK0030173 Johnstown Newt Sites SAC ~8.4 km from proposed facility at closest point			
<i>All interest features (for screening) – all management units, with potential sensitivity to atmospheric pollutants with a critical level</i> <i>The single interest feature listed is Great Crested Newt Triturus cristatus</i>	All air quality pollutant critical levels for protected sites – for screening purposes. There are no conservation objectives which specifically reference air emissions or pollutant concentrations - limits considered are those applied to all SACs and listed on the APIS website	The applicant has submitted detailed air dispersion modelling for the primary emissions of concern, including NO_x (Oxides of Nitrogen) and particulate as considered below. . Toxic contamination – ambient NO_x Although NO_x will be present in air emissions, significant effects from toxic contamination can be ruled out on the basis of small size of maximum projected impact at the protected site. The emissions are limited by BAT and MCPD Emission limit values, and the resultant modelled impact at the SAC is 0.002 µg/m³ on an annual basis, or 0.01% of the environmental standard (ES) of 30 µg/m³. This is well below the 1% threshold used for assessing potential significance of the process contribution (PC) from a source. Similarly, the PC for the short term NO_x impact is 0.08% of the ES – insignificant when assessed against a 10% threshold for short-term standards. Significant effects alone can be ruled out. Smothering -effect of dust/particulate emissions	

		Effects from particulate emissions (leading to smothering) can be ruled out as no credible impact pathway owing to the very small scale of emission, and distance from source to receptor, combined with the fact that there is no ES for particulate for protected sites hence no credible mechanism of impact. Risk is negligible or lower. Further detail is given above. Changes in thermal regime, changes in salinity regime, Habitat loss, Physical damage by IPC/PPC process, turbidity, siltation No impact pathway as MCP is not within the SAC and there is no mechanism of harm for these criteria – including no water discharge only air emissions.	
<i>Interest features with potential sensitivity to Nutrient Nitrogen or acid Deposition (none identified)</i>	Neither the management plan nor Apis gives any specific deposition critical loads, consistent with the interest feature listed. As a precautionary screening approach, and with consideration of any effects on supporting habitat, NRW permitting service have compared deposition calculations with the lowest critical loads applicable to any protected site, 3 kg/Ha/yr for N, and 0.1 kgeq/ha/yr for acid.	The applicant's air dispersion modelling and impact assessment includes nitrogen and acid deposition calculation. The applicant has not identified any specific nutrient nitrogen or acid sensitivity / critical load which is confirmed by the information given on APIS and in the core management plan. NRW has taken the precautionary approach below to confirm that any potential impacts are in any case insignificant using the lowest limits applicable to any protected site. Nutrient enrichment - Nutrient nitrogen deposition The maximum modelled nutrient nitrogen impact on the SAC is so small that it is reported as 0.000 kgN/Ha/yr within modelling accuracy. The scale of the emission is so insignificant that it can be considered that there is no credible impact pathway. Thus significant effects from nutrient enrichment can be ruled out. Toxic contamination – acid deposition Using the highly precautionary approach above, the modelled maximum acid impact on the SAC, of 0.00001 keq/ha/yr has been assessed using an arbitrary extremely low acid sensitivity (Min Cl Min N) of 0.1 kgeq/ha/yr (as obtained using a search of multiple sensitive sites and features across Apis database). Even taking this most precautionary indicative approach, the calculated PC is 0.01%, i.e. insignificant against a 1% threshold– thus meaning that even with “worst-worst case” assumptions, the theoretical impact is negligible. It is therefore concluded that there is in effect no impact pathway, as any potential impact is minute, even if any sensitivity is identified.	

3.2.3 Screening decision of the project 'alone'

(b) If there are NO rows coloured RED in column II of Table 3.2.2, and there are ANY rows which are BLUE

The project is not likely to have a significant effect on any Natura 2000 sites when considered alone, but the possibility of significant effects in combination with other plans and projects needs to be considered.

5 In combination assessment

5.1 Identifying possible in combination effects (*for likely significant effect screening*)

BLUE impact pathway from Table 3.2 and/or Residual effect (from appropriate assessment in section 4)	Natura 2000 site feature(s) concerned	Other plans/projects with effects that might interact with the effects of the project to render its effects significant (if any)	Nature of the in-combination effect (if any)	Is there likely to be any significant in-combination effect, in view of the site's conservation objectives?
Toxic contamination – ambient NO_x	All potentially sensitive features	None	Additive contribution of other NOX sources from general developments. The background NOX is <10 ug/m3, compared to an ES of 30. Thus over 50 “insignificant alone” developments would be needed within a relevant distance to put the ES at risk. This level of development is not credible	No
Nutrient enrichment – Nutrient nitrogen deposition	All potentially sensitive features	None	Potential additive effect from other nitrogen sources. While N backgrounds are generally high, the maximum impact from combustion sources are low, with this project maximum impact screened at <0.2% of the ES and impacting over a small geographical area, using a highly precautionary calculation. This is not a significant in-combination risk and need not be taken further as the number and scale of other proposed developments in combination with this do not put the 1% significance threshold at significant risk. If other developments were making a more	No

			significant and defined contribution, then these should screen the in-combination effects of very small sources such as this project if necessary, not the other way around.	
Toxic contamination – acid deposition	All potentially sensitive features	None	Potential additive effect from other acid sources. This project maximum acid impact screened at 0.3% of the ES and impacting over a small geographical area, using a highly precautionary calculation. This is not a significant in-combination risk and need not be taken further as the number and scale of other proposed developments in combination with this do not put the 1% significance threshold at significant risk. If other developments were making a more significant and defined contribution, then these should screen the in-combination effects of very small sources such as this project if necessary, not the other way around.	
(a) If the right hand column is 'NO' for all rows		The project, when considered in combination with other plans and projects, is not likely to have a significant effect on the integrity of any Natura 2000 site.		

6. Conclusion

The project has been screened for likelihood of significant effects and, taking account of the advice received from protected sites advisors, is considered not likely to have a significant effect on any Natura 2000/Ramsar site (As documented in section 3.2 of this form, or section 5 if applicable)	X
Signed: David Poole Name: David Poole Position: Senior Permitting Officer Date: 13/12/21	

7. Consultation with protected sites advisor(s) and how sections 2, 3, 4 and 5 of this HRA report (as applicable) take into account that advice.

Delete any rows that do not apply.

Relevant section of the HRA report	Date(s) of correspondence* and any meeting(s) with protected sites advisor(s)	Description of how the comments from protected sites advisors have been taken into account
All	None other than formal consultation	The assessment appears straightforward and so has been submitted without prior consultation. If concerns are raised, these will be addressed and documented as necessary before the HRA process is concluded. As the protected sites are on the England/Wales border, consultation will be both with the relevant NRW environment team, and with Natural England

We need to have this on file with a note saying we are adopting the NRW HRA in respect to air quality, and then I will complete the waste water one (when the new guidance comes in).

Regards
Emma