Stage 1 Habitats Regulations Assessment

Environment Agency record of screening for likely significant effects

This is a record of the screening for likely significant effects required by Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended), undertaken by the Environment Agency in respect of the permission, plan or project (PPP) detailed in Section 1, for the following relevant site(s):

River Mease SAC (UK0030258)^

Version: - 02/09/2025

This record was not sent to Natural England for consultation.

An additional component charge for habitats assessment was levied for this application.

1. Permission, plan or project (PPP) details

Type of PPP: Environmental Permit (PPC Installations)

Environment Agency reference: EPR/LP3327SK/A001

National grid reference: SK2688018995

Site/project name or reference: Swadlincote Energy Recovery Facility

2. Description of proposal

Construction and Operation of a new Energy from Waste plant, with one incineration line with a capacity of 230,000 tonnes of waste per annum, generating approximately 18.5 MWe electricity for export to the grid. If permitted, would be under EPR Section 5.1 Part A(1)(b) – incineration of >3t/h of non-hazardous waste, and would operate under IED/ BREF incineration limits.

The Applicant proposes use of air cooled condensers, so there is no need for water abstraction or discharge of cooling water, with all plant water requirements being met by rainwater harvesting and towns water supply. There are no proposed emissions to water except uncontaminated surface water via oil separators, swales and ponds and attenuation features. Excess quantities of process effluent will be tankered off-site for treatment. There would be a flue gas treatment plant to clean the waste gases prior to their release into the atmosphere. Cleaned waste gases from combustion would be emitted and dispersed via a 60m stack.

The proposed installation is approximately 6.4km from the River Mease SAC at its nearest point. Given the distance from the protected sites, direct impacts are considered screened out as having no likely significant effect. This is because there

is either no source or pathway from the source to the receptor. However, the effect of emissions of waste gases to atmosphere from the process and subsequent impact on the protected sites, do require consideration.

The plant, and its waste gas abatement plant have been designed to meet the IED/ BREF incineration emission limits, which are primarily intended to safeguard human health and air quality. There are no mitigation measures specifically proposed for protection of the designated habitats. Therefore the stage 1 assessment considers emissions at these limit levels (which is a conservative approach), as compliance with these limits is integral to the PPP operation.

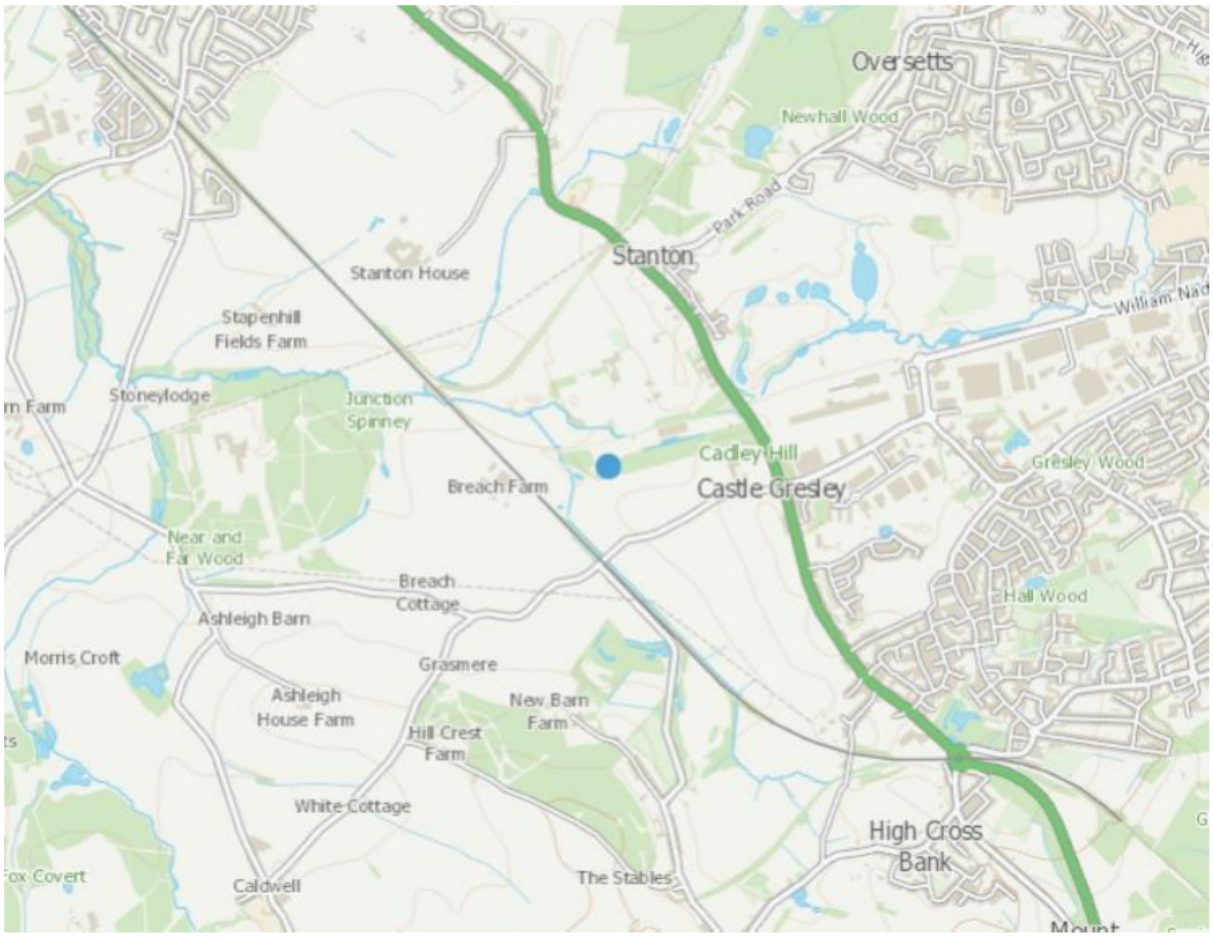
Dispersion of these emissions have been modelled by the Applicant and audited by the Environment Agency. Refer to Section 8 for further details on our assessment of the air dispersion model provided by the applicant.

As there are no proposed process emissions to water, there are no likely significant effects via this mechanism (no source).

The following atmospheric pollutants are identified as relevant to possible impact on the protected sites:

- Oxides of Nitrogen (NOX), expressed as NO2. Possible impacts are effects of raised ambient NOX concentration (both annual and daily limits), contribution to nutrient nitrogen deposition, and contribution to acid deposition.
- Sulphur Dioxide (SO2). Possible impacts are effects of raised ambient SO2 concentration (annual limit), and contribution to acid deposition
- Ammonia (NH3). Possible impacts are effects of raised ambient NH3 concentration (annual limit) and contribution to nutrient nitrogen deposition.
- Hydrogen Fluoride (HF). Possible impacts are effects of raised ambient HF concentration (both weekly and daily limits)

3. Map(s) showing PPP location and European site(s)

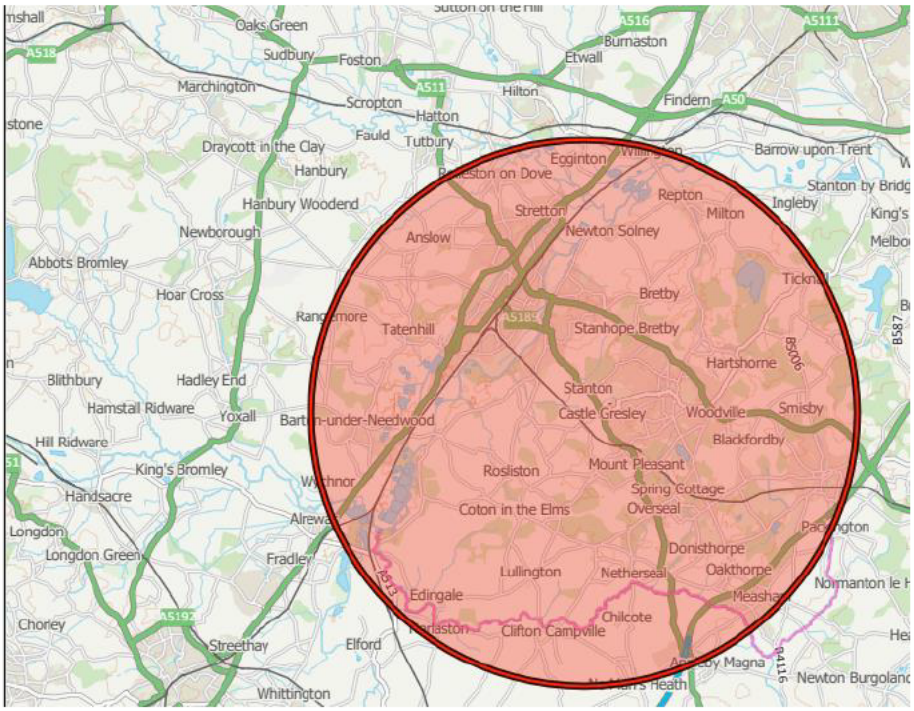


PPP location

10 Km Screening distance

SAC - England

SAC - England



4. European sites requiring assessment[1]

River Mease SAC (UK0030258)^

Bullhead; Otter; Spined loach; Water courses of plain to montane levels with R. fluitantis; White-clawed crayfish

5. Conservation objectives

The screening for likely significant effects (and appropriate assessment, if required) will consider the implications of the proposal in view of the site's conservation objectives.

River Mease SAC (UK0030258)^:
http://publications.naturalengland.org.uk/publication/6217720043405312?category=6071598712881152

6. Risks (pressures) relevant to the type of PPP being assessed

These are the reasonably foreseeable risks for this type of PPP. Some of these risks may not be relevant to the particular activity being assessed and this is explained here. The risks which are not relevant do not require further assessment.

Acidification

Change in nutrients

Change in salinity regime

Change in thermal regime

Disturbance

Entrainment/impingement

Habitat loss

Physical damage

Siltation

Smothering

[1] This is based on screening criteria the Environment Agency consider appropriate to identify possible significant risk.
^ Protected area under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017
* Priority natural habitat/priority species
~ Marine Protected Area
Feature information sourced from Natural England

Toxic contamination

Turbidity

The following risks are identified as reasonably foreseeable for generic PPP's affecting the designated sites. They are, however, judged not relevant to this specific PPP, as explained below, and so are excluded from further consideration:

Change in salinity regime: No source or pathway. The only discharge from the proposed site is limited to uncontaminated surface runoff. No process effluent would be discharged to water.

Changes in thermal regime: No source or pathway. The only discharge from the proposed site is limited to uncontaminated surface runoff. No process effluent would be discharged to water.

Disturbance: No human or vehicular access to European sites required by this PPP. Only relevant potential mechanism for disturbance is noise, which is considered below.

Entrapment/ impingement: There are no abstractions or activities associated with this PPP which could result in entrapment/impingement.

Physical damage: No source. The site does not overlap any European site. Access to the protected sites is not required for this PPP. There is no pathway for any effects that could lead to physical damage.

Siltation: No source of suspended solids in the uncontaminated surface runoff, which could potentially settle and cause siltation.

Smothering: not relevant as PPP is approximately 6.4km from the River Mease SAC therefore no source-pathway-receptor linkage.

Turbidity: No source of suspended solids in the uncontaminated surface runoff, which could potentially cause turbidity.

Only the following risks are considered relevant for assessment and therefore discussed in the 'HRA Stage 1 Screening':

7. HRA Stage 1 screening[2]

This section is a record of the screening for each risk (pressure) and the qualifying features that could be sensitive to that risk. The features may be grouped if they will

[2] Only features the Environment Agency consider likely to be sensitive to the type of PPP being assessed are included, see *Habitats Regulations Assessment: Risk definitions and matrices*

be affected in the same way and the screening is the same for each feature. If appropriate, the assessment may be considered at a site level, rather than feature by feature.

River Mease SAC (UK0030258)^

Acidification

Summary of likely significant effect alone:

No likely significant effect alone. The applicant has undertaken detailed air dispersion modelling. The operator presented that there is no comparable critical load for acid deposition. We agree that this is the case, however, we have also carried out a worst-case check against highly conservative critical loads for sensitive features.

We used the critical load function for bogs (CLminN = 0.321 kg eq/ha/yr; CLmaxN = 0.542 kg eq/ha/yr; CLmaxS = 0.221 kg eq/ha/y and applied these to the modelling provided by the applicant.

We found process contributions from the PPP for these pollutants to be below the significance screening threshold of 1% of the acid critical load function.

Summary of likely significant effect in combination:

Not applicable, no further (in combination) assessment required when predicted process contributions are below the significance screening thresholds.

The assessment of likely significant effect from this risk for the following features is:

Bullhead - no effect. Otter - no effect. Spined loach - no effect. Water courses of plain to montane levels with R. fluitantis - no effect. White-clawed crayfish - no effect.

Change in nutrients

Summary of likely significant effect alone:

No likely significant effect alone. The applicant has undertaken detailed air dispersion modelling. The operator presented that there is no comparable critical load for nutrient nitrogen. We agree that this is the

^ Protected area under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017
* Priority natural habitat/priority species
~ Marine Protected Area

case, however, we have also carried out a worst-case check against highly conservative critical loads for sensitive features.

We used the woodland critical load deposition velocity of 5 kg N/ha/yr and applied this to the modelling provided by the applicant.

We found process contributions from the PPP for this pollutant to be below the significance screening threshold of 1% of the nutrient nitrogen critical load function.

Summary of likely significant effect in combination:

Not applicable, no further (in combination) assessment required when predicted process contributions are below the significance screening thresholds.

The assessment of likely significant effect from this risk for the following features is:

Bullhead - no effect. Otter - no effect. Spined loach - no effect. Water courses of plain to montane levels with R. fluitantis - no effect. White-clawed crayfish - no effect.

Disturbance

Summary of likely significant effect alone:

The only relevant issue for disturbance from the site is noise. There is no potential route for human or vehicular access to the European Site from the proposal.

The PPP is located a considerable distance from the SAC (approximately 6.4 km at its closest point). Other sources of noise exist between the location of the PPP and the SAC.

We consider that disturbance due to noise associated with the operation of the PPP will not have a significant impact alone or in combination.

Summary of likely significant effect in combination:

We consider that disturbance due to noise associated with the operation of the PPP will not have a significant impact alone or in combination.

The assessment of likely significant effect from this risk for the following features is:

Otter - no effect.

Habitat loss

Summary of likely significant effect alone:

> No likely significant effect alone. As impacts from acidification, change in nutrients and toxic contamination have all been screened out, with annual mean process contributions below the significance screening thresholds, none of these emissions are likely to cause a significant effect alone through indirect habitat loss.
>
> Also, there is no mechanism for direct habitat loss as the site does not overlap the European site and access to the protected site is not required for this PPP.

Summary of likely significant effect in combination:

> Not applicable, no further (in combination) assessment required when impacts have been screened out is not likely to cause a significant effect alone

The assessment of likely significant effect from this risk for the following features is:

> Bullhead - no effect. Otter - no effect. Spined loach - no effect. Water courses of plain to montane levels with R. fluitantis - no effect. White-clawed crayfish - no effect.

Toxic contamination

Summary of likely significant effect alone:

> No likely significant effect alone. The applicant has undertaken detailed air dispersion modelling, which concludes that toxic contamination impacts can be screened out alone. Refer to section 8 for further details on our assessment of the air dispersion model provided by the applicant.
>
> Emissions of atmospheric gases from the PPP linked to potential toxic contamination (oxides of nitrogen (NOX), sulphur dioxide (SO2), ammonia (NH3) and hydrogen fluoride (HF)) are all below the relevant significance screening thresholds for long and short term critical levels (<1% of the long term and <10% of the short term).
>
> In particular, for this receptor, the maximum process contributions predicted by the applicant are:
>
> - 0.2% of the annual NO_2 critical level of 30 µg/m^3 and 2.2% of the daily NO_2 critical level of 75 µg/m^3
> - 0.1% of the SO_2 critical level of 20 µg/m^3
> - 0.2% of the NH_3 critical level of 3 µg/m^3

- 0.8% of the weekly HF critical level of 0.5 µg/m^3 and 0.6% of the daily HF critical level of 5 µg/m^3

Summary of likely significant effect in combination:

Not applicable, no further (in combination) assessment required when predicted process contributions are below the significance screening thresholds.

The assessment of likely significant effect from this risk for the following features is:

Bullhead - no effect. Otter - no effect. Spined loach - no effect. Water courses of plain to montane levels with R. fluitantis - no effect. White-clawed crayfish - no effect.

8. Alone assessment (further details)

Emissions to air from the installation activities include hydrogen fluoride, nitrogen dioxide, ammonia and sulphur dioxide. The applicant has assessed emissions to air against the relevant environmental standards and the potential impact upon ecological receptors by undertaking a detailed air modelling assessment.

This assessment predicts the potential effects on local air quality from the PPP stack emissions (main stack and emergency diesel generator) using the ADMS-6 dispersion model, which is a commonly used computer model for dispersion modelling.

We have audited the applicant's air dispersion model and reviewed its selection of input data, use of background data and the assumptions made to inform the assessment. We have also carried out a screening exercise using an air dispersion screening tool developed by the Environment Agency and based on the US EPA AERMOD air dispersion model to confirm the quality of the applicant's model predictions.

Air dispersion modelling enables the PC to be predicted at any environmental receptor that might be impacted by the emissions from a plant. Once short-term and long-term PCs have been calculated in this way, they are compared with Environmental Standards (ES), also referred to as critical loads and levels.

PCs calculated by detailed air dispersion modelling, can be considered insignificant if:

- the long-term process contribution is less than 1% of the relevant ES or critical level; and
- the short-term process contribution is less than 10% of the relevant ES.

The long term 1% process contribution insignificance threshold is based on the judgements that:

- It is unlikely that an emission at this level will make a significant contribution to air quality; and
- The threshold provides a substantial safety margin to protect the environment.

The short term 10% process contribution insignificance threshold is based on the judgements that:

- spatial and temporal conditions mean that short term process contributions are transient and limited in comparison with long term process contributions; and
- the threshold provides a substantial safety margin to protect the environment

Where an emission is screened out in this way, we would normally consider that the applicant's proposals for the prevention and control of the emission to be acceptable.

We agree with the conclusions of the applicant's air dispersion model and assessment of impacts on the River Mease SAC as follows:

- The short term (24 hours) predicted process contributions of NOx and HF are below the significance screening threshold of 10% of the relevant critical levels;
- Weekly HF levels screen out as insignificant (PC <10% of critical level);
- The long term (annual average) predicted process contribution of NOx, SO2 and NH3 are below the significance screening threshold of 1% of the relevant critical levels;
- The long term (annual average) predicted process contribution of nitrogen oxides deposition, as nutrient nitrogen, is below the significance screening threshold of 1% of the nutrient-nitrogen critical load (see section 7 above for more information);
- The long term (annual average) predicted process contribution of nitrogen oxides deposition, as pollutants responsible for acidification, is below the significance screening threshold of 1% of the acid function critical load (see section 7 above for more information).

We consider that the air emissions from the process will not have a significant impact alone.

9. In combination assessment (further details)

No in-combination assessment has been necessary. For all the areas of risk, the proposal is assessed not to cause effects at all, or to cause only trivial effects that are screened out as insignificant according to our function-specific guidelines (Operating Instruction OI 66_12), we have concluded that the proposed permitted installation is not likely to cause significant impacts, and in line with our guidance we are not required to carry out an in-combination assessment.

10. Information / Advice

This section summarises the information and or advice requested / received during the screening.

Environment Agency internal advice and consultation (if applicable)

N/A...

Natural England information / advice (if applicable)

N/A

Third party advice (if applicable)

N/A

11. References

- Environment Agency (2012), Operating Instruction - Simple assessment of the impact of aerial emissions from new or expanding IPPC regulated industry for impacts on nature conservation, OI 66_12;

- Air Pollution Information System (APIS), website, http://www.apis.ac.uk, last accessed 11/2024.

12. Decision

The Environment Agency concludes there is no likely significant effect.

Name of Environment Agency officer: [redacted]

Job title: Senior Permitting Officer

Date: 02 September 2025

13. Consultation (if applicable)

N/A

Natural England advice on the screening for likely significant effects (if applicable)

N/A