# Riverside Energy Park

# Habitats Regulations

## "No Significant Effects" Report (with track changes)

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CORY
RIVERSIDE ENERGY

# Riverside Energy Park

## Habitat Regulations Assessment

## Document Reference 6.5

On behalf of

**Cory Environmental Holdings Limited**

Project Ref: 42166/4001 | Rev: - | Date: ~~November~~ April 201~~8~~

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# Executive Summary

PBA was commissioned by Cory Environmental Holdings Limited (trading as Cory Riverside Energy (Cory or the Applicant)) to undertake a Habitats Regulations Assessment (HRA) of proposals for the Riverside Energy Park (REP), an integrated Energy Recovery Facility (ERF), from here on referred to as the Proposed Development.

Under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), an HRA is required for all plans and projects which may have likely significant effects on European sites and are not directly connected with, or necessary to, the management of the European site.

One European site has been identified within the zone of influence[1], Epping Forest Special Area of Conservation (SAC). This site is designated primarily for its woodland and heathland habitats; the presence of stag beetle is also a qualifying feature.

This report is intended to provide the information necessary for the Secretary of State, as competent authority for HRA for Nationally Significant Infrastructure Projects, to make their assessment. It has been prepared in accordance with PINS Advice Note 10 and with reference to the methodology for HRA set out in The Habitats Regulations Assessment Handbook.

This report considers the potential for likely significant effects from REP, either alone or in combination with other plans and projects. Potential impacts on Epping Forest SAC have been identified as those arising from emissions / deposition from the ERF Stack.

The emissions of $NO_x$, $SO_2$, ammonia, hydrogen fluoride (HF), nitrogen, and total acid from REP have been modelled using the method set out in Environment Agency guidance AQTAG06. The predicted concentrations and deposition have been compared against the relevant critical levels and loads respectively for habitats within the SAC as defined on the Air Pollution Information Service (APIS) website.

Based on the results of air quality modelling, none of the process contributions are above 1% of the critical level or load where the critical level or load is exceeded. All pollutant concentrations and deposition rates are below the threshold for potential significance and further investigation, as identified within EA guidance AQTAG06 for environmental permitting.

Given these findings, no Likely Significant Effects to Epping Forest SAC have been identified either alone, or in combination with other plans or projects and no further specific avoidance or mitigation measures have been proposed. As a result, the Proposed Development does not require further consideration at Appropriate Assessment.

[1] The area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities

# 1 Introduction

## 1.1 Overview

1.1.1 PBA, was commissioned by Cory Environmental Holdings Limited (trading as Cory Riverside Energy (Cory or the Applicant)) to undertake a Habitats Regulations Assessment (HRA) of proposals for the Riverside Energy Park (REP), an integrated Energy Recovery Facility (ERF), from here on referred to as the Proposed Development.

1.1.2 Under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), an HRA is required for all plans and projects which may have likely significant effects on European sites and are not directly connected with or necessary to the management of the European site. These include:

- Special Areas of Conservation (SACs) designated under European Council Directive 92/43/EEC(a) on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive); and,
- Special Protection Areas (SPAs) designated under the European Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive).

1.1.3 In accordance with paragraph 1.4 of PINS Advice Note 10[2], potential SPAs and possible SACs being considered by the Secretary of State for classification as a SPA/ SAC, should be given the same protection as a fully classified SPA/ SAC. In addition, Ramsar Sites and proposed Ramsar Sites (wetlands of international importance listed under the Ramsar convention) should be given the same protection as European Sites. Sites identified, or required, as compensatory measures for adverse effects on European Sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites should also be considered as European Sites.

1.1.4 This report is intended to provide the information necessary for the Secretary of State to make their assessment and it has been prepared in accordance with PINS Advice Note 10. It has been prepared in accordance with the methodology for HRA set out in The Habitats Regulations Assessment Handbook[3].

1.1.5 This assessment considers the potential for likely significant effects from REP on the qualifying features of European sites within the zone of influence[4] of the Proposed Development.

[2] The Planning Inspectorate (2016) Advice note ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects. V.8. January 2017.

[3] DTA Publications Ltd. (2018) The Habitats Regulations Assessment Handbook. DTA Publications Ltd, Nottingham

[4] The area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities

## 1.2 Project Background

### Site Location and Description

1.2.1 The REP site is located within the administrative areas of the London Borough of Bexley (LBB) and the Electrical Connection is located within both LBB and Dartford Borough Council (DBC). The site extents are shown on **Figure 1.1**, Site Location Plan, and **Figure 1.2**, Application Boundary of the Environmental Statement (ES) (**Document Reference 6.2**).

1.2.2 A description of REP, processes, timings and methods of work can be found in **Chapter 3** of the ES (**Document Reference 6.1**). The Application Site comprises the following:

- the REP site, located to the north of Belvedere off Norman Road;
- the Main Temporary Construction Compounds located to the south of the REP site and west of Norman Road;
- the Electrical Connection, running predominantly underground between the REP site and the Electrical Connection Point at Littlebrook substation connecting into an existing National Grid substation building in Dartford; and
- Cable Route Temporary Construction Compounds required to support the construction of the selected Electrical Connection route. These will be small discrete compounds, required for a period of time whilst works are undertaken along particular lengths of the Electrical Connection route.

### Proposed Development

1.2.3 REP would be on land immediately adjacent to Cory's existing Riverside Resource Recovery Facility (RRRF), within the London Borough of Bexley and would complement the operation of the existing facility. It would comprise an integrated range of technologies including: waste energy recovery, waste anaerobic digestion, solar panels and battery storage. The main elements of REP are as follows:

- Energy Recovery Facility (ERF): to provide thermal treatment of Commercial and Industrial (C&I) residual (non-recyclable) waste with the potential for treatment of (non-recyclable) Municipal Solid Waste (MSW);
- Anaerobic Digestion facility: to process food and green waste. Outputs from the Anaerobic Digestion facility would be transferred off-site for use in the agricultural sector as fertilizer or as an alternative, where appropriate, used as a fuel in the ERF to generate electricity;
- Solar Photovoltaic Installation: to generate electricity. Installed across a wide extent of the roof of the Main REP Building;

- Battery Storage: to store and supply additional power to the local distribution network at times of peak electrical demand. This facility would be integrated into the Main REP building;

- On Site Combined Heat and Power (CHP) Infrastructure: to provide an opportunity for local district heating for nearby residential developments and businesses. REP would be CHP Enabled with necessary on site infrastructure included within the REP site.

### Electrical Connection

- REP would be connected to the electricity distribution network via a new 132 kilovolt (kV) underground electricity cable connection. The route options for the Electrical Connection are shown in the Works Plans (**Document Reference 2.4**).

1.2.4 In consultation with UK Power Networks ('UKPN'), Cory is considering Electrical Connection route options to connect to the existing National Grid Littlebrook substation located south east of the REP site, in Dartford. The route options are located within the LBB and Dartford Borough, and would run from a new substation proposed to be constructed within the REP site.

## 1.3 Ecological Background and Scope of Assessment

1.3.1 There are no specific criteria in PINS Advice Note 10 for the Screening of effects on European Sites. The study area for Screening is dependent upon the scale and nature of the project and European Site, and the surrounding environment where the potential for significant effects could reasonably be considered to occur.

1.3.2 The ecological zone of influence relating to European sites has therefore been discussed and agreed with consultees via the consultation process for REP and includes the area within 15 km of the ERF Stack. This distance conforms to standard guidance from the Environment Agency (EA) in relation to assessing air quality impacts to protected conservation areas[5] (see also consultation feedback from EA and Natural England, detailed in Section 3 of **Chapter 11** of the Environmental Statement (ES) (**Document Reference 6.1**)). One European site has been identified within 15 km of the ERF Stack, and can be viewed along with REP on **Figure 11.1** of the ES:

- Epping Forest Special Area of Conservation (SAC).

1.3.3 SACs are designated under the Habitats Directive (Council of the European Communities, 92/43/EEC). If plans or projects (not directly related to site management) are proposed that either alone or in combination with other plans or projects could have an effect on the interest features of a SAC (even if the proposed works are outside the boundary of the designated area), the Secretary of State (in consultation with Natural England) has a duty to consider whether

[5] www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas (accessed 4 October 2018)

the site could be affected (a process known as 'screening'). If effects could occur, an appropriate assessment is required to determine whether those effects could adversely affect the integrity of the site in view of its conservation objectives. If adverse effects to the site cannot be avoided, or if uncertainty remains, consent for works will only be granted if there are no alternative solutions, there are imperative reasons of over-riding public interest for the works and compensatory measures have been secured. This process is known as a Habitats Regulations Assessment (HRA).

## 1.4 Summary of Relevant European Sites

1.4.1 European sites relevant to this assessment are summarised in **Table 1.1** below, with further details provided in **Appendix A**.

Table 1.1: Summary of Relevant European Sites

| Site Name and Type | Summary of Reasons for Designation | Distance from REP |
|---|---|---|
| Epping Forest SAC | Habitats that are a primary reason for selection of this site as an SAC are<br>"*Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion). Epping Forest represents Atlantic acidophilous beech forests in the north-eastern part of the habitat's UK range. Although the epiphytes at this site have declined, largely as a result of air pollution, it remains important for a range of rare species, including the moss Zygodon forsteri. The long history of pollarding, and resultant large number of veteran trees, ensures that the site is also rich in fungi and dead-wood invertebrates.*"[6]<br>Also present as a qualifying feature of the SAC (but not a primary reason for selection) are wet and dry heathlands.<br>Stag beetle are widespread and frequent, and the site straddles the Essex and east London population centres. | 12.13 km to the NW, measured from the stack. |

[6] www.jncc.defra.gov.uk

# 2 Methodology

## 2.1 Overview

2.1.1 This document has been prepared using:

- The Habitats Regulations Assessment Handbook (DTA Publications Ltd available online at www.dtapublications.co.uk). The handbook provides a regularly updated source of guidance on the understanding and interpretation of the Habitats Regulations and consistency in applying the requirements of the legislation.
- Advice Note Ten: Habitats Regulations Assessment relevant to Nationally Significant Infrastructure Projects (The Planning Inspectorate).

2.1.2 It is considered that these documents contain the best practice methodology currently available for HRA. They set out a four-stage approach (illustrated below) to HRA and emphasis the iterative nature of the process.

2.1: Process of HRA


## 2.2 Stage 1: Screening

2.2.1 The screening involves the determination of the European sites which could potentially be affected by the proposed works and their determining interests (set out in **Section 1**), and whether or not the development could result in a likely significant effect, either alone or in combination with other plans and projects. As a matter of policy, Ramsar sites (wetland sites of international importance designated under the Ramsar Convention 1971) are protected as European sites in the same way, however no Ramsar sites have been identified within the zone of influence for REP.

2.2.2 The assessment of likely significant effects is set out in **Section 3**, and within the screening matrices in **Appendix B**.

2.2.3 HRA case law (the “Dilly Lane” case, 2008) determined that mitigation measures that were “incorporated into the project” or which “formed part of the project” could be taken into account at the screening “likely significant effect” test stage of HRA (as long as they were effective). The ruling judge accepted that certain facets of a project, which are intended to avoid or reduce negative impacts on a European site (i.e. mitigation), can still be regarded as "incorporated into the project" if they are promoted that way by the developer.

2.2.4 However, a more recent ruling (Court of Justice of the European Union (**"**CJEU**"**) *People Over Wind and Sweetman v Coillte Teoranta* (C-323/17)) concluded that mitigation measures intended to avoid or reduce impacts on a European site could not be regarded as part of the "project" and thus should not be taken into account at the Screening Stage of HRA when judging whether likely significant effects on the integrity of a European Site could occur.

2.2.5 Whilst there has been no formal guidance on this issue from Natural England, the Habitats Regulations Assessment Handbook (DTA Publications Ltd, 2018) has recently been updated in light of this ruling. The handbook concludes that any measures inherently part of the Project design (e.g. embedded mitigation) which are not specifically incorporated into the Project for ecological reasons, but reduce ecological effects, can be considered at the HRA screening stage. If there is reliance on mitigation measures as part of the project, that would not have been put in place without the presence of a Natura 2000 site, then an Appropriate Assessment is required. Only those mitigation measures which are additional or separate to those considered part of REP itself are required to be considered at Appropriate Assessment. This distinction is yet to be tested by further case law.

## 2.3 Stage 2: Appropriate Assessment

2.3.1 In the event that Likely Significant Effects are identified at the Screening Stage, on the basis of objective information, an assessment of whether there would be an adverse effect on the integrity of the Natura 2000 site concerned, and the consideration of measures to address this effect, is required. Only where it is not possible to identify suitable measures to address the identified effects is consideration of Stage 3 and Stage 4 required.

## 2.4 Stage 3: Assessment of Alternatives

2.4.1 The assessment should identify and assess alternatives that have been considered. Alternative solutions could include a project of a different scale, a different location, and an option of not having the scheme at all (the 'do nothing' approach).

## 2.5 Stage 4: Consideration of IROPI

2.5.1 Where it can be demonstrated that there are no alternative solutions to the project that would have a lesser effect or avoid an adverse effect on the integrity of the European site, the project may still be carried out if the competent authority is satisfied that the scheme must be carried out for imperative reasons of overriding public interest (IROPI).

## 2.6 Assessment Approach

2.6.1 As described in section 1, the potential impacts on Epping Forest SAC are identified as those arising from emissions / deposition from the ERF Stack. For impacts on terrestrial biodiversity receptors, the Institute of Air Quality Management (IAQM) guidance recommends adopting EA guidance AQTAG06

for environmental permitting. The emissions from REP have been modelled using this method for $NO_x$, $SO_2$, ammonia, hydrogen fluoride (HF), nitrogen, and total acid; process contributions (PC) have been added to an estimate of the baseline concentration, to provide the Predicted Environmental Concentration (PEC).

2.6.2 Critical loads and background concentrations for Epping Forest SAC have been taken from the Air Pollution Information Service (APIS) website.

2.6.3 If a PC causes a breach of the relevant critical load, and the PC is the significant causal factor for the breach then the PC is unlikely to be acceptable and further controls are likely to be required on the operation of the installation to mitigate the impact (i.e. further mitigation to reduce emissions or the consideration of the need for a higher stack, for example).

2.6.4 The EA guidance describes the following PC as being insignificant when undertaking a screening assessment of emissions to air:

- the short-term (24-hours or less) PC is less than 10% of the short-term environmental standard; and
- the long-term (annual) PC is less than 1% of the long-term environmental standard.

2.6.5 Given the results of air quality modelling of emissions and deposition predicted during the operation of REP, the potential for Likely Significant Effects is then considered, which also necessarily considers the potential in combination effects with other Projects.

# 3 Habitats Regulations Assessment

## 3.1 Epping Forest SAC

### Relevant Conservation Objectives

3.1.1 The conservation objectives for Epping Forest SAC are:

"*Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:*

- *The extent and distribution of qualifying natural habitats and habitats of qualifying species;*
- *The structure and function (including typical species) of qualifying natural habitats;*
- *The structure and function of the habitats of qualifying species;*
- *The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;*
- *The populations of qualifying species, and,*
- *The distribution of qualifying species within the site*" (Natural England, 2014).

### Assessment of Likely Significant Effects (Construction)

3.1.2 Dust may be emitted during construction, however impacts from REP from dust could extend only approximately 50 m, extended to 500 m from the site entrance along routes used by construction vehicles. Due to the distance of the SAC from REP (12.1 km) no impact pathways have been identified for the construction phase and there are no Likely Significant Effects.

### Assessment of Likely Significant Effects (Operation)

3.1.3 As described in the REP ES Chapter 7, Air Quality (**Document Reference 6.1**) emissions from the ERF Stack can lead to deposition of compounds with the potential to adversely affect designated areas. Deposition of nitrous oxides ($NO_x$), sulphur dioxide ($SO_2$), ammonia ($NH_3$), hydrogen fluoride (HF), nitrogen (N), and total acid has been calculated from the maximum predicted concentration using the approach in EA guidance AQTAG06. Detailed modelling has been carried out to predict the Process Contribution (PC) and Predicted Environmental Concentration (PECs) of relevant pollutants from the ERF Stack location to Epping Forest SAC. The results of the modelling are provided in Tables 3.1-3.3 below.

3.1.4 The predicted concentrations and deposition have been compared against the relevant critical levels and loads respectively for habitats within the SAC as defined on the APIS website. Where the critical level or load is already exceeded as a result of the baseline concentrations or deposition rates, then the additional contribution from the process should be:

- less than 1% of the assessment value for long term (annual) environmental standards; or,
- less than 10% for short term (daily) environmental standards.

3.1.5 Otherwise the additional contribution is potentially significant and requires further ecological consideration (Environment Agency (2014)).

3.1.6 Table 3.1 below shows results of air quality modelling for average process contributions for $NO_x$ (annual and daily), $SO_2$, ammonia and HF concentrations to Epping Forest SAC (taken from **Document Reference 6.3** REP Environmental Statement Air Quality **Appendix C.2**). The maximum PEC for annual mean $NO_x$ concentrations is 151% of the critical level, however the modelled PC for annual mean $NO_x$ is only 0.08% indicating that the contribution from REP is **Not Significant**. All of the other PECs are below the critical levels, indicating **no likely significant effects from REP**.

Table 3.1 Predicted average process contributions for NOx (annual and daily), SO2, ammonia and HF to Epping Forest SAC

| | Background µg/m³ | PC µg/m³ | PC[1] % | PEC µg/m³ | PEC[7] % |
|---|---|---|---|---|---|
| Predicted Annual Average $NO_x$ | 45.4 | 0.02 | 0.08% | 45.4 | 151% |
| Predicted Daily Mean $NO_x$ | 45.4 | 1.4 | 1.9% | 46.8 | 62.4% |
| Predicted Annual Mean $SO_2$ | 1.5 | 0.006 | 0.02% | 1.50 | 5.0% |
| Predicted Annual Mean Ammonia | 2.8 | 0.0020 | 0.1% | 2.8 | 94.1% |
| Predicted Daily HF | 1.0 | 0.0120 | 0.2% | 1.012 | 20.2% |

3.1.7 Table 3.2 below shows results of air quality modelling for the maximum annual mean process contributions for nitrogen deposition ~~(taken from the REP ES **Appendix C.2**)~~. Although the PEC is over the critical load of 10 kgN/ha/yr, this is principally due to existing background rates of nitrogen deposition, and the PC is **Negligible** at 0.~~05~~2% indicating **no likely significant effects from REP**.

[7] Expressed as percentage of the critical level of: annual $NO_x$ 30 µg/m³, daily $NO_x$ 75 µg/m³, $SO_2$ 10 µg/m³ for lichens, Ammonia 1 µg/m³ for lichens, HF of 5 µg/m³.

Table 3.2 Predicted nitrogen deposition

| Site Name | Lower Critical Load (kgN/ha/yr) | Background (kgN/ha/yr) | PC (kgN/ha/yr) | PC % | PEC (kgN/ha/yr) | PEC % |
|---|---|---|---|---|---|---|
| Epping Forest (SAC) | 10 | 19.7 | ~~4.78 x 10-3~~0.02 | 0.~~205~~ % | 19.~~87~~ | 19~~87~~ % |

3.1.8 Table 3.3 below shows results of air quality modelling for the maximum annual mean acid deposition (taken from **Document Reference 6.3** REP Environmental Statement Air Quality **Appendix C.2**). Although the PEC is at the critical load of 1.594 keq/ha/yr, this is principally due to existing background rates of acid deposition, and the PC is **Negligible** at 0.29% indicating **no likely significant effects from REP**.

Table 3.3 Predicted total acid deposition (nitrogen and sulphur)

| Site Name | Critical Load (keq/ha/yr) | Background (keq/ha/yr) | PC (keq/ha/yr) | PC % | PEC (keq/ha/yr) | PEC[8] % |
|---|---|---|---|---|---|---|
| Epping Forest (SAC) | 1.594 | 1.59 | 0.005 | 0.29% | 1.59 | 100.0% |

3.1.9 Whilst no critical levels or loads are given on the APIS website for stag beetle, it is considered that given critical levels or loads for habitats are not exceeded, there will be no significant effects to this species.

### Cumulative Effects

3.1.10 The construction, operation, and decommissioning of REP could occur simultaneously with 'other developments' located in the vicinity of REP. A full review of schemes within 2 km of REP with potential to produce cumulative and/or in-combination effects with REP has been undertaken. The 'other developments' with the most potential for simultaneous effects are identified in **Chapter 4** and **Appendix A.4.**

3.1.11 Emissions of dusts during construction and decommissioning have been assessed as likely to extend only approximately 50 m from REP, extended to 500 m from the site entrance along routes used by construction vehicles. As there will be no effect to Epping Forest SAC at over 12 km from REP, there is no potential for cumulative effects with other developments.

3.1.12 For those operational pollutants from REP which have been modelled, Epping Forest SAC currently exceeds the critical level for $NO_x$ and the critical load for Nitrogen deposition. Therefore, these are the only pollutants with potential for in-combination effects. The modelled PCs for $NO_x$ and Nitrogen Deposition from REP are 0.08% and 0.~~05~~2% of the relevant critical level and load respectively. These contributions are considered nugatory and indistinguishable from background variations meaning there would be no appreciable effects to the SAC from REP. Therefore, there is no mechanism for in-combination effects with other plans or projects in proximity to Epping Forest SAC which may also emit $NO_x$ and contribute to Nitrogen Deposition.

3.1.13 Only one project was identified within **Chapter 4** with potential air quality effects which could act cumulatively with operation of REP - the operation of a proposed mortar and screed batching plant to the approximately 2 km northeast of REP, at Land off Ferry Lane New Salamons Estate (P2036.19). However, the main impacts of the Mortar and Screed Batching Plant would be dust emissions. Operational emissions of particulate matter from REP are insignificant in proximity to REP, therefore at over 12 km away there will be no cumulative effects to Epping Forest SAC through dust/particulate emissions with the mortar and screed batching plant.

# 4 Conclusion

4.1.1 One European site, Epping Forest SAC, has been identified within the ecological zone of influence of REP. The potential impacts on Epping Forest SAC were identified as those arising from emissions / deposition from the ERF Stack.

4.1.2 Based on the results of air quality modelling, none of the process contributions are above 1% of the critical level or load where the critical level or load is exceeded. All pollutant concentrations and deposition rates are below the threshold for potential significance and further investigation, as identified within EA guidance AQTAG06 for environmental permitting.

4.1.3 Given these findings, **no Likely Significant Effects** to Epping Forest SAC have been identified either alone, or in combination with other plans or projects and no further specific avoidance or mitigation measures have been proposed. As a result, the Proposed Development does not require further consideration at Stage 2 Appropriate Assessment.

# 5 References

Cory Riverside Energy (2018) Riverside Energy Project Environmental Statement

Cory Riverside Energy (2018) Riverside Energy Project Preliminary Environmental Information Report

Council of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

Environment Agency (2014) AQTAG06 - Technical guidance on detailed modelling approach for an appropriate assessment for emissions to air

Natural England (2014) European Site Conservation Objectives for Epping Forest Special Area of Conservation (SAC)

The Planning Inspectorate (2017). Advice note ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects

### Websites

Apis.ac.uk. (2018). *Air Pollution Information System | Air Pollution Information System*. [online] Available at: http://www.apis.ac.uk/ [Accessed 10 Oct. 2018].

Dtapublications.co.uk. (2018). *DTA Publications | The Habitats Regulations Assessment Handbook and Journal*. [online] Available at: http://www.dtapublications.co.uk/ [Accessed 10 Oct. 2018].

GOV.UK. (2018). *Air emissions risk assessment for your environmental permit*. [online] Available at: https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit [Accessed 10 Oct. 2018].

Jncc.defra.gov.uk. (2018). *JNCC - Adviser to Government on Nature Conservation*. [online] Available at: http://jncc.defra.gov.uk/ [Accessed 10 Oct. 2018].

# Appendix A Epping Forest SAC

(Information below from JNCC website, accessed 20/09/2018)

## Annex I habitats that are a primary reason for selection of this site

**Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)**

A.1.1 Epping Forest represents Atlantic acidophilous beech forests in the north-eastern part of the habitat's UK range. Although the epiphytes at this site have declined, largely as a result of air pollution, it remains important for a range of rare species, including the moss *Zygodon forsteri.* The long history of pollarding, and resultant large number of veteran trees, ensures that the site is also rich in fungi and dead-wood invertebrates.

## Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

A.1.2 Northern Atlantic wet heaths with *Erica tetralix*

A.1.3 4030 European dry heaths

## Annex II species that are a primary reason for selection of this site

**Stag beetle *Lucanus cervus***

A.1.4 Epping Forest is a large woodland area in which records of stag beetle *Lucanus cervus* are widespread and frequent; the site straddles the Essex and east London population centres. Epping Forest is a very important site for fauna associated with decaying timber, and supports many Red Data Book and Nationally Scarce invertebrate species.

# Appendix B Screening Matrices

## B.1 Screening matrices taken from *Advice note ten* (The Planning Inspectorate (2017))

Potential Effects

Potential effects upon the European site[***] which are considered within the submitted HRA report (6.5 Riverside Energy Project, Habitats Regulations Assessment) are provided in the table below.

Effects considered within the screening matrices

| Designation | Effects described in submission information | Presented in screening matrices as |
|---|---|---|
| **Epping Forest SAC** | Deposition of air pollutants | ▪ Deposition of air pollutants |

# STAGE 1: SCREENING MATRICES

The European sites included within the screening assessment are:

Epping Forest SAC.

Evidence for, or against, likely significant effects on the European site(s) and its qualifying feature(s) is detailed within the footnotes to the screening matrices below.

**Matrix Key:**

✓ = Likely significant effect **cannot** be excluded
✕ = Likely significant effect **can** be excluded

C = construction
O = operation
D = decommissioning

[***] As defined in Advice Note 10.

## HRA Screening Matrix: Epping Forest SAC

| **Name of European site and designation: Epping Forest SAC** | | | | | | |
|---|---|---|---|---|---|---|
| **EU Code: UK0012720** | | | | | | |
| **Distance to NSIP: 12.1km** | | | | | | |
| **European site features** | **Likely effects of NSIP** | | | | | |
| *Effect* | *Deposition of Air Pollutants* | | | *In combination effects* | | |
| *Stage of Development* | *C* | *O* | *D* | *C* | *O* | *D* |
| *9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)* | **×a** | **×b** | **×a** | **×a** | **×c** | **×a** |
| *4010 Northern Atlantic wet heaths with Erica tetralix* | **×a** | **×b** | **×a** | **×a** | **×c** | **×a** |
| *4030 European dry heaths* | **×a** | **×b** | **×a** | **×a** | **×c** | **×a** |
| *1083 Stag beetle Lucanus cervus* | **×a** | **×d** | **×a** | **×a** | **×d** | **×a** |

**Evidence supporting conclusions:**

**a.** Dust may be emitted during construction or decommissioning of REP, however impacts from dust could extend only approximately 50m, extended to 500m from the site entrance along routes used by construction vehicles (6. REP Environmental Statement Chapter 7 Air Quality, Section 7.5.5). Due to the distance of the SAC from REP (12.1 km) no impact pathways have been identified for the construction or decommissioning phase and there are **no Likely Significant Effects**, alone or in combination with other plans or projects.

**b.** Based on the results of air quality modelling, none of the process contributions are above 1% of the critical level or load where the critical level or load is exceeded (Air Quality Appendix C.2, Section C.2.3 (**Document Reference 6.1**) & HRA Table 3.1 of this document. All pollutant concentrations and deposition rates are below the threshold for potential significance to the habitats with Epping Forest SAC, and therefore no further investigation is required. Whilst no critical levels or loads are given on the APIS website for stag beetle, it is considered that given critical levels or loads for habitats are not exceeded, there will be no significant effects to this species. Given these findings, **no Likely Significant Effects** to Epping Forest SAC have been identified through operation of REP.

**c.** Only one project was identified with potential air quality effects - the operation of a proposed mortar and screed batching plant to the northeast of REP, at Land off Ferry Lane New Salamons Estate (P2036.19) (**Document 6.2, Chapter 11,** Section 11.10). However, the main impacts of the Mortar and Screed Batching Plant would be dust emissions. Operational emissions of particulate matter from REP are insignificant even in proximity to REP, and at over 12 km away there would **be no cumulative or in-combination effects** with the mortar and screed batching plant to Epping Forest SAC.

**d.** Stag beetle are not sensitive to nitrogen or acidity impacts to their habitats (apis.ac.uk. 2018), and therefore there are no there are **no Likely Significant Effects** to this species.