Document Ref: 6.2.9
PINS Ref: EN010082

Tees CCPP Project

The Tees Combined Cycle Power Plant Project
Land at the Wilton International Site, Teesside

Volume 1 - Chapter 9

Regulations – 6(1)(b) and 8(1)

Applicant: Sembcorp Utilities UK
Date: November 2017

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9 ECOLOGY AND NATURE CONSERVATION

9.1 INTRODUCTION

9.1.1 Terms of Reference for this Chapter

9.1 This chapter presents an assessment of the likely significant ecological and nature conservation effects from construction, operation and decommissioning of the 'Project'. The baseline nature conservation interests of the Project Site and surrounding area are described, potential effects identified, proposed mitigation measures listed and an assessment of the significance of residual effects is made. Supporting ecological information is contained in *Annex G*.

9.2 The effects on ecological features were assessed taking account of:

- information about the Project (see *Chapter 5 Project Description)*;
- the findings from the desk study and consultations including details of sites of nature conservation importance and known records of protected and priority species of flora and fauna in the surrounding area (see *Section 9.4.3*);
- the findings of an ecological site walkover survey in October 2016 (see *Section 9.4.4*);
- the findings of two breeding bird surveys undertaken in April and June 2017 (see *Section 9.4.4*);
- the results of the predictive modelling of emissions to air from the Project (*Chapter 7 Air Quality*); and
- the predictions on other technical issues reported in this ES which could result in secondary effects on fauna species (eg due to increases in noise, lighting).

9.3 The assessment assumes the loss of all habitats within the Project Site boundary (ie worst case). This loss has been assumed to be permanent in areas where above ground structures for the Project, including new areas of hardstanding, will be constructed.

9.1.2 Basis of Assessment including Realistic Worst Case Scenario

9.4 The ecological and nature conservation assessment made in this chapter is based on the following:

- the Project construction methods, operational assumptions and layout as presented in *Chapter 5 Project Description*;
- site surveys;
- a desk study of designated sites and protected and priority species; and
- the results of the modelling of emissions to air.

9.5 For the purposes of assessment, permanent loss of all habitats is assumed for above ground operational components. For buried services (pipelines, cables etc.) it is assumed habitats in these areas will be temporarily lost for a period of one year, after which time they will be reinstated where it is appropriate to do so although the extent of such effects will be limited as all connections (water, foul, gas) are limited in extent and abut the Project site. In the case of construction laydown areas, it is assumed that habitat within these areas will be permanently lost as hardstanding areas will be retained after construction is concluded.

9.6 The outputs of the air quality assessment (see Chapter 7) provided the basis for assessing effects on habitats due to atmospheric pollution and deposition of acid and nitrogen.

9.7 The predictions of air pollutants levels/loads, and noise levels have been made on worst case bases also (see details in the relevant Chapters).

9.8 In regard to the two possible development scenarios for the Project, construction and operation of the up to 1,700 MWe power plant represents worst case and provides the basis of assessment; construction in two phases is not considered to present any ecological effects that are materially different from a single phase of construction. Further consideration of timing and phasing matters is provided in *Section 9.2.3*.

9.9 Due to a lack of habitats present on the Project Site and in the immediate surrounding area the Project Site is of negligible ecological sensitivity. Accordingly a proportionate Ecological Impact Assessment Chapter has been produced for protected and notable species. For designated sites identified during the desk study a separate assessment has been undertaken as well as a Habitat Regulations Assessment (HRA) report (see *Annex H*).

9.1.3 Consultation

9.10 Sembcorp has carried out various formal and informal consultation activities as part of the DCO process. As part of the process, consultation responses relevant to ecology and nature conservation were received from Natural England (NE), Environment Agency (EA), the Secretary of State (SoS), Redcar and Cleveland Borough Council (RCBC) and North Yorkshire County Council (NYCC) during the Scoping and PEIR stages, and *Table 9.1* contains summaries of the responses from these consultees. A copy of the Scoping Opinion and full responses from consultees is provided in *Annex B*.

Table 9.1 Consultation Responses

Source	Consultee Comment	Response
Natural England	The ES should thoroughly assess the potential for the proposal to affect designated sites……. In addition paragraph 118 of the National Planning Policy Framework requires that potential Special Protection Areas…… should be treated in the same way as classified sites.	Information to inform a draft Habitats Regulations Assessment is presented in this Chapter and in *Annex H*. Any effects on the Teesmouth & Cleveland Coast pSPA are assessed in the same way as on classified European sites.
Natural England	The EIA will need to consider any impacts on local wildlife and geological sites	No significant effects have been identified on these sites (see *Section 9.5*).
Natural England	The ES should assess the impact of all phases of the proposal on protected species	No significant effects have been identified (see *Section 9.5* and *Annex G2*).
Natural England	The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as "Habitats and Species of Principal Importance" within the England Biodiversity List.	No Habitats of Principal Importance (HOPI) have been identified, and Species of Principal Importance (SOPI) are listed in *Section 9.4.3 or 9.4.4*). No significant effects have been identified (see *Section 9.5)*
Natural England	Records of protected species should be sought from appropriate biological record centre, nature conservation organisations, group and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.	Records have been obtained from the Environmental Records Information Centre, North East and information on protected species populations in the wider area are based on INCA's own data. A summary of the information provided is in *Section 9.4.3*.
Secretary of State – Scoping Opinion	The SoS notes the Applicant's proposal to conduct a walk-over survey of the Proposed Development site and to prepare a 'suitably worded planning condition' (DCO Requirement) to avoid any harm to birds which may be nesting on the site. The Applicant's attention is drawn to the consultation response from NE, which recommends that a Phase 2 habitat survey of the site is undertaken. The need for any further surveys beyond the walk-over survey proposed should be discussed and agreed with NE and the Council's ecology officer. The approach to survey effort should be agreed and evidence of such agreement should be appended to the ES. The Applicant should be aware of the need to justify how the approach accords with the requirements of policy 5.3.3 of NPS EN-1.	Natural England has revised its opinion (in their letter of 26th April 2017) following further consultations with Sembcorp and no longer require any more detailed Phase 2a surveys, so additional ornithological, botanical or invertebrate surveys are not required. As a precautionary measure, given the potential for nesting birds to be present (albeit in very low numbers), two breeding bird surveys were conducted to provide a robust baseline and to alert the Applicant of any nesting birds present on the site.
Secretary of State– Scoping Opinion	The guidelines followed for the ecological assessment (and any surveys) should be clearly identified in the ES chapter. The Applicant should ensure that the most up to date versions of guidance documents are used.	The approach to the assessment is described in *Section 9.2.3*.
Secretary of State– Scoping Opinion	The potential impacts on international, nationally and locally designated sites should be described and assessed in the ES. The Applicant's attention is drawn to the consultation response from NE, which emphasises the need to also	No significant effects have been identified on these sites (see *Section 9.5*). Other than standard mitigation to be provided in a CEMP (eg removal of habitat on site prior

Source	Consultee Comment	Response
	consider sites which have been designated for their geological importance. The Applicant is advised to discuss potential effects on LWSs and any mitigation proposed with the local wildlife trust/s.	to the breeding bird season) no other specific mitigation is required, as all effects were found to be *'Not significant'*.
Secretary of State– Scoping Opinion	It is proposed that a 15 km study area will be used to identify internationally and nationally designated sites, and a 2 km study area to identify areas of ancient woodland and LWSs. These study areas should be discussed and agreed with NE/the Council, as appropriate. It is noted from North Yorkshire County Council's consultation response that it considers the use of a 15 km study area to identify international sites to be appropriate.	This has been agreed with Natural England in their letter dated 26th April 2017 which included a requirement to assess: • potential effects from emissions to air on internationally and nationally designated sites in a 15 km radius from the Project Site; • off-site effects on the Teesmouth and Cleveland Coast Special Protection Area (SPA) and Ramsar site including any predicted habitats changes (eg sand dunes, freshwater marsh and mudflats).
Secretary of State– Scoping Opinion	It is noted that Table 6.2 of the Scoping Report identifies nationally designated ecological sites within a 15 km radius of the Proposed Development site. In addition to this, Figure 6.2 of the Scoping Report usefully illustrates the 15 km buffer and the locations of these ecological sites. A plan akin to Figure 6.2 should be provided with the ES, although this should additionally clearly identify all components of the same SSSI. For example, whilst part of the Tees and Hartlepool Foreshore and Wetlands SSSI is identified by a label to the north of the 15 km buffer, Section 6.4.2 of the Scoping Report indicates that the components of this SSSI are located closer to the Proposed Development site, although this is not clear from Figure 6.2.	This information has been provided in *Figure 9.2.*
Secretary of State– Scoping Opinion	However, it is noted from Figure 6.2 that the following nationally designated sites are located within a 15 km radius of the site, but have not been identified in Table 6.2: • Lovell Hill Pools SSSI; • Cliff Ridge SSSI; • Saltburn Gill SSSI; and • Langbaurgh Ridge SSSI.	These sites are included in *Table 9.6*.
Secretary of State– Scoping Opinion	It is also noted that Table 6.2 and Section 6.4.2 of the Scoping Report identifies Tees and Hartlepool Foreshore and Wetlands SSSI as the closest nationally designated site to the Proposed Development site, located approximately 4.3 km to the west. However, Section 6.2.2 of the Scoping Report states that Lovell Hill Pools Site of SSSI is located approximately 3 km to the south-east of the Proposed Development site. The Applicant should ensure that the information provided is consistently reflected throughout the ES.	*Table 9.6* confirms Lovell Hill Pools SSSI is located 3.0 km from the site.

Source	Consultee Comment	Response
Secretary of State– Scoping Opinion	It is noted from Section 6.4.4 of the Scoping Report that the Applicant intends to describe in the ES the ecological mitigation proposals for the Proposed Development site, and this is welcomed. The Applicant should also consider the potential to deliver mitigation through improvement of existing but degraded sites within the local area, eg LWSs. The Applicant should clearly demonstrate, with cross reference to the DCO as appropriate, how the delivery of all mitigation measures is secured.	All effects have been assessed as *"Not significant"* and did not require mitigation.
Secretary of State– Scoping Opinion	Where no impacts on designated sites, habitats and species are envisaged, this should be justified using appropriate evidence and evidence of agreement with statutory parties provided.	Effects on designated sites have been assessed with appropriate justification in *Section 9.5*. For example the only effects on European sites assessed were those from air emissions from the Project. Natural England concurred with this view and confirmed that detailed Phase 2 type surveys for flora and fauna species were not required (see their letter dated 26th April 2017).
Secretary of State– Scoping Opinion	3.64 The Applicant's attention is drawn to Section 5 of the consultation response from NE, which advises that the ES should reflect the principles of the England Biodiversity Strategy (published by Defra) in relation to how the effects of the Proposed Development will be influenced by climate change and how ecological networks will be maintained. The SoS recommends that the Applicant thoroughly considers these matters in the ES and liaises with NE to agree an approach, if possible.	The loss of habitats on the Project Sites will not affect any local ecological network.
Secretary of State– Scoping Opinion	3.65 The SoS notes that elements of the ecological assessment will be closely linked to the air quality assessment and this is welcomed. The ecological assessment should also cross-refer to the noise and vibration, water quality and landscape and visual (in respect to light spill) assessments as appropriate.	The ecological impact assessment has taken account of the potential for other secondary effects on habitats and species (see *Section 9.1.1*). All effects were found to be *"Not Significant"* (see Section 9.5).
Secretary of State– Scoping Opinion	The SoS notes from Section 6.4.4 of the Scoping Report that the Applicant intends to undertake a Habitats Regulations Assessment (HRA) screening exercise to assess the potential impacts on four European sites identified within a 15 km radius of the site: • Teesmouth and Cleveland Coast SPA • Teesmouth and Cleveland Coast Ramsar site • North York Moors SAC • North York Moors SPA However Table 6.3 of the Scoping Report identifies only three internationally designated sites (and their interest features) within a 15 km radius of the site, and omits the Teesmouth and Cleveland Coast Ramsar site. The Applicant should ensure that information is consistently reflected in the ES and information provided to support consideration under the	These sites are included in *Table 9.6*.

Source	Consultee Comment	Response
	Habitats Regulations.	
Secretary of State– Scoping Opinion	The SoS understands that it is the Applicant's contention that the only likely effect pathway is via atmospheric emissions (and deposition of nitrogen and acid). However the Scoping Report also states that a range of possible effects will be considered in the screening exercise. The Applicant should seek to secure agreement with Natural England on the scope of the assessment (including the 15 km study area, the potential impacts considered, the European sites and their features considered) and the conclusions of the HRA prior to submission of the application. Evidence of such agreements should be submitted with the HRA report and recorded in a SoCG with Natural England. The Applicant should also consider in the ES the potential impacts of emissions and deposition on SSSIs.	It was agreed with Natural England that the only potential effect on European protected sites was from atmospheric emissions, and that the effects should be considered on European sites in a 15 km radius from the Project Site (see their letter dated 26th April 2017). A draft report to inform the HRA is in *Annex H*. At this stage of the environmental impact assessment process the drafting of statements of common ground have yet to be completed. Effects have been assessed on habitats in SSSIs within a 15 km radius of the Project Site, and all were found to be *"Not Significant"* (see *Section 9.5* and *Annex G1)*.
Secretary of State– Scoping Opinion	The consultation response from the EA refers to the proposed extension of the Teesmouth and Cleveland Coast SPA and notes that this would bring the SPA boundary closer to the Proposed Development site. Once consultation has concluded, this area would become a potential SPA (pSPA) and under UK Government policy would be awarded the same level of protection as a SPA. The Applicant's attention is drawn to policy 5.3.9 of NPS EN-1, which states: 'For the purposes of considering development proposals affecting them, as a matter of policy the Government wishes pSPAs to be considered in the same way as if they had already been classified'. This includes consideration of any new qualifying features.	Effects on the pSPA have been assessed in the same way as classified European sites and found to be *"Not Significant"* (see *Section 9.5* and *Annex H*), and included habitats supporting new qualifying interest species (avocet and common tern).
Teesmouth Bird Club PEIR Response	We are in general agreement with the findings and conclusions of these reports. The open and largely bare nature of the site offers little in terms of habitat to encourage bird species biodiversity. The survey, performed in October 2016 would, of course, not detect breeding by the 2 wader species (Little Ringed Plover - Schedule 1 species; and Ringed Plover - Red Category of Concern species). Another wading bird, Oystercatcher may well utilise the area too, especially as it ferries in prey items to its young and is thus independent of the site's supply of invertebrates, unlike the other two species mentioned. (They nest on nutritionally sterile roof tops in Aberdeen for example). Appropriate measures will be require if any of the 3 wader species attempt breeding, as the removal of vegetation will not be a preventative measure – on the contrary. As an aside, your early site preparation phase may benefit from not prematurely discouraging the gulls' practice of loafing. It is quite conceivable that their	The comments are noted and will be addressed in terms of site preparation requirement in the final CEMP. Sembcorp will agree a statement of common ground with TVWT in order to support projects they may operate within the vicinity of the Wilton International Site.

Source	Consultee Comment	Response
	presence discourages wader species from nesting in the first instance, and premature removal could then encourage wader colonisation. From our understanding of the final footprint of the plant and the nature of the site, there is little scope for immediate local biodiversity enhancement. The club would widely applaud any efforts and it may be well worth considering the practice of biodiversity off-setting on any adjacent land you own. If this is not possible, the company may wish to participate in funding a newly purchased wildlife reserve some 2 km from Wilton. Thus as well as meeting the requirements of NPPF, there would be, in addition, a benefit to the local community. The reserve is owned by Tees Valley Wildlife Trust. The club and TVWT would be pleased to participate in future dialogue of such initiatives. The club hopes you will find our comments beneficial in the construction of the plant and facilitates local acknowledgement of your business's environmental credentials. "	
North Yorkshire County Council	We have the following comments to make: - We support the inclusion of internationally designated sites within 15 km of the proposal which includes sites that fall within North Yorkshire. This is important given the potential for impacts resulting from emissions to air. - We also support the inclusion of a Habitat Regulations Assessment which will consider the effects on internationally designated sites (including those that fall within NYs). - We have no comments to make on the approach to ecological impact assessment at the local level as this is unlikely to involve any cross boundary effects.	Noted
Environment Agency PEIR Response	"Annex H-Habitats Regulations Assessment in the PEIR Volume 2 states that the Process Contribution (PC) at the Teesmouth & Cleveland Coast SPA is 0.0433 kgN ha-1 yr-1 whereas the PC at the pSPA is 0.0407 kgN ha-1 yr-1. Unusually, the PC is lower at the pSPA, which is closer to the installation than the SPA. There might be an issue with this data and we advise that you investigate this further. In Annex L – Air Quality in PEIR Volume 2, the PCLT at the Teesmouth & Cleveland Coast SPA is detailed as 0.272µg/m3. However, in Annex H the same determinand is 0.301µg/m3. We consider that this discrepancy should be investigated as this affects the Process Contribution/Critical Load (PC/CL) data in Annex L.	These discrepancies in the PEIR arose due to errors in transcribing data between the air quality and ecology assessment, which have now been corrected in *Annex H*. The information presented in *Annex L* of the PEIR (now *Annex E.1* of the ES) was correct. They are now both consistent.

Source	Consultee Comment	Response
	Annex L shows the nitrogen (NOx) annual mean data at protected habitat sites. At Teesmouth & Cleveland Coast the PC/CL (%) is 0.9% which is below the 1% threshold for significance. However, the Predicted Environmental Concentration/Critical Load (PEC/CL) (%) is 107% and is 106% or 107% at a further 7 habitat locations, as the data is dominated by high background levels. We advise that you explain the location and measurement basis of background data and ensure that the same statistical basis is used to calculate process contributions and background concentrations. The national and non-statutory objectives are a benchmark for harm and any significant contribution to a breach is likely to be unacceptable but is assessed on a case by case basis taking account of the costs and benefits of the situation.	
	In addition, we advise to add a map of emissions, which shows where the NOx emissions are predicted (and that also shows the designated sites). The reason for this is that in Annex H NOx emissions are lower for the Teesmouth and Cleveland Coast potential SPA (pSPA) than the SPA (0.283 ug/m3), yet the pSPA is closer to the application site. In Annex L the emissions for the pSPA are higher than the SPA, but again, clarification is needed about the discrepancies in data.	Maps showing emissions data have now been included in the Air Quality assessment (*Chapter 7*) and the effects are illustrated in *Figure 7.5* and *Figure 7.6* for annual mean NO_2 and 1 hour mean NO_2 respectively
	"Furthermore, the Habitats Regulations specify that the impacts of projects either alone or in combination need to be considered at the likely significant effect screening stage. In Annex H, it is stated that as the contributions from the project are insignificant, the effect will be insignificant alone and in combination (p.804). This is incorrect. As the contributions are insignificant alone, contributions from other relevant plans and projects need to be considered in combination".	The HRA (*Annex* H) has been updated to address such matters.
	Table A1.3 (p 142) considers planning applications within a 15 km radius, which could form a basis for an in-combination assessment. Planning applications to include are those that have no likely significant effects alone, or have residual effects, and are pending or have been approved but are not (fully) in operation yet. In addition, the environmental permits application register could provide more information on projects in the area:	*Section 9.5.3* explains how other schemes have been considered in the context of cumulative (and in-combination) effects on ecology.
Environment Agency	We wish to inform the operator/applicant that there is a proposed expansion of the Teesmouth Special Protection Area (SPA). Details of this proposed expansion to the SPA are available on the Natural England website at the following link: http://publications.naturalengland.org.uk/publication/5987326182293504 Consideration will need to be had within the Environmental Impact Assessment and Habitats Directive Assessment to the proposed SPA expansion, as it will greatly increase the size of the existing protected area and move the SPA boundary closer to the proposed power plant site.	The proposed expansion to the SPA (pSPA) will only bring the SPA around 200m closer at its nearest point (in practice the width of the River Tees from North Tees Mudflats which are currently the closest point). The effects of emissions to air on the proposed expansion have been assessed and found to be *"Not Significant"* (see *Section 9.5* and *Annex H*).

Source	Consultee Comment	Response
Redcar and Cleveland Borough Council	From 27th March 2013, local planning policies in existing plans (ie those adopted before the NPPF) should be given due weight according to their consistency with the NPPF (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given) (para 215). Local Development Framework: Core Strategy CS24 Biodiversity and Geological Conservation Emerging Development Plan Publication Local Plan (2016): SD1 Sustainable Development N4 Biodiversity and Geological Conservation Conclusion The above policies are considered relevant to the project. The Redcar & Cleveland Publication Local Plan was published for consultation from December 2016 to January 2017. Submission of the Local Plan for examination is currently scheduled for March 2017.	*Section 9.1.3* lists the policies for the Project which have been taken into account in the assessment.

9.1.4 Policy and Legislation

General Considerations

9.11 Relevant wildlife and countryside legislation has been referred to along with planning policy guidance to inform this assessment. Legislation and guidance of relevance to the ecological impact assessment for the Project is set out below.

9.12 Policy relevant to the Project is set out in *Chapter 2* of this ES. *Table 9.2* below identifies those policies that are relevant to ecology.

Table 9.2 Policy Documents Relevant to Ecology and Nature Conservation

Topic	Ecology and nature conservation
Overarching National Policy Statement for Energy(EN-1)	Section 5.3 (Biodiversity and geological conservation)
National Planning Policy Framework (NPPF)	Various references
Planning Practice Guidance (PPG)	11 Conserving and enhancing the natural environment
The Core Strategy Development Plan Document, adopted July 2007	CS24 Biodiversity and Geological Conservation
Draft Publication Local Plan (November 2016)	SD1 Sustainable Development N4 Biodiversity and Geological Conservation

National Policy

9.13 Section 5.3 (Biodiversity and geological conservation) of the Overarching National Policy Statement for Energy(EN-1) requires that EIA development clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species of principal importance for the conservation of biodiversity, and the applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests (paragraphs 5.3.3/4).

9.14 National Planning Policy Framework (NPPF) sets out how the planning system is required to contribute to and enhance the natural and local environment by protecting/enhancing valued landscapes, geological conservation interests and soils; the wider benefits of ecosystem services; minimising impacts on biodiversity and providing net gains where possible; preventing development from contributing to unacceptable levels of soil, air, water or noise pollution or land instability; remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land where

appropriate (paragraph 109). Policies and decisions should encourage re-use of previously developed land (paragraph 111).

9.15 The National Planning Practice Guidance, NPPG, accompanies the NPPF, providing guidance on its interpretation. The NPPG includes guidance on how biodiversity should be taken into account when preparing a planning application. This makes clear that local planning authorities should only require ecological surveys where clearly justified and that ecological assessments should be proportionate to the nature and scale of development proposed and the likely effect on biodiversity. The Guidance provides further information on the interpretation of the mitigation hierarchy (avoid – mitigate – compensate) and suggests ways in which new development can include enhancements for biodiversity.

Local Planning Policy

9.16 Core Strategy Development Plan Document (2007) policies of note include the following.

9.17 CS24 Biodiversity and Geological Conservation: aims to protect and enhance the Borough's biodiversity and geological resource, including protecting the integrity of European sites.

9.18 Draft Publication Local Plan (November 2016) policies are as follows.

9.19 SD1 Sustainable Development: aims to secure developments within the local area that improve the economic, social and environmental conditions.

9.20 N4 Biodiversity and Geological Conservation: aims to protect and enhance the borough's biodiversity and geological resources. The policy states that *"support will be given to high quality schemes that enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation, particularly in the Tees Corridor, Teesmouth, East Cleveland and Middlesbrough Beck Valleys opportunity areas."*

European Legislation

EC Directive 2009/147/EC on the Conservation of Wild Birds (The 'Birds Directive')

9.21 EC Council Directive 2009/147/EC on the Conservation of Wild Birds (the 'Birds Directive') provides a framework for the conservation and management of wild birds in Europe by introducing a general framework of protection. The Directive additionally provides for the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, and for regularly occurring migratory species.

EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (The 'Habitats Directive')

9.22 In 1992 the then European Community adopted Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the 'Habitats Directive'. The main aim of this Directive is to promote the maintenance of biodiversity by requiring member states to introduce protection for these habitats and species of European importance. Included within the Directive is a requirement for the designation of Special Areas of Conservation (SAC), both for habitats listed under Annex I and for species listed within Annex II of the Directive. It also introduces a strict system of protection for species listed on Annex IV of the Directive (referred to as European Protected Species) irrespective of where they occur.

Conservation of Habitats and Species Regulations 2010, as amended (The 'Habitats Regulations')

9.23 In the UK, the 'Habitats Directive' is transposed into law by means of the Conservation of Habitats and Species Regulations 2010 which consolidates the various amendments made to the original 1994 Regulations in respect of England and Wales and is commonly known as the 'the Habitats Regulations'. The Regulations contain five Parts and four Schedules, and provide for the designation and protection of 'European Sites', the protection of 'European Protected Species', and the adoption of planning and other controls for the protection of European Sites. This legislation is the principal means by which the Birds Directive and 'Habitats Directive' are implemented in the UK.

National Legislation

Wildlife and Countryside Act 1981, as amended (WCA)

9.24 The WCA is the major legal instrument for wildlife protection in the UK, and has been subject to significant modification by subsequent legislation. The WCA is the means by which the Bern Convention and the 'Birds Directive' are implemented in Great Britain.

9.25 The WCA protects the most important habitats as Sites of Special Scientific Interest (SSSIs).

9.26 Wild animals listed in Schedule 5 of the Act are subject to specific protection under Section 9, which make the following an offence:

- intentional killing, injuring and taking;
- possession or control;
- intentional or reckless damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection;
- intentional or reckless disturbance of an animal occupying such a structure or place;
- selling, offering for sale, possessing or transporting for the purposes of sale; and
- advertising for buying or selling.

9.27 The WCA prohibits the intentional killing, injuring or taking of any wild bird (with certain exceptions) and the taking, damaging or destroying of a wild bird's nest or eggs. Special penalties are given for offences related to birds listed on Schedule 1. It also provides a level of protection to plants listed in Schedule 8 and makes it an offence to plant or otherwise cause to grow in the wild any plant that is included in Schedule 9 of the Act.

Countryside and Rights of Way (CRoW) Act 2000 (as amended)

9.28 Part III of the CRoW Act deals specifically with wildlife protection and nature conservation. The CRoW Act amends the WCA, by strengthening the protection of designated SSSIs. In addition, it increases the legal protection of threatened species, by also making it an offence to 'recklessly' destroy, damage or obstruct access to a sheltering place used by an animal listed in Schedule 5 of the Act or 'recklessly' disturb an animal occupying such a structure or place.

Natural Environment and Rural Communities (NERC) Act 2006

9.29 The NERC Act created a new integrated agency, named 'Natural England', through the merger of the Countryside Agency's landscape, access and recreation functions, English Nature and part of the Rural Development Service (RDS) that dealt with nature conservation.

9.30 Section 40 provides that every public authority, in exercising its functions, shall have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat. A public authority includes a Minister of the Crown. It also requires the Secretary of State to publish a list of living organisms and habitat types which in his or her opinion are of principal importance for the purpose of conserving biodiversity. Before publishing that list, the Secretary of State is obliged to consult Natural England.

9.31 Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

9.32 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

9.33 Fifty-six habitats of principal importance (HoPIs) and 943 species of principal importance (SoPIs) are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.

9.1.5 Supporting Information for this Chapter

9.34 Information on the results of baseline surveys and other studies is provided in a series of Appendices as set out below:

- *Annex G1* Effects of Air Quality on nationally and locally designated sites;
- *Annex G2:* Preliminary Ecological Appraisal;
- *Annex G3:* Breeding Bird Survey; and
- *Annex H*: Habitat Regulations Assessment.

9.2 ASSESSMENT METHODOLOGY

9.2.1 Desk Study and Consultation

9.35 The desk study obtained information about internationally and nationally designated nature conservation sites within a 15 km radius of the Project Site. This distance reflects the Area of Influence (AoI) agreed with Natural England (NE) due to air emissions from the Project. Information on locally designated nature conservation sites, protected and priority habitats and species was collated within a 2 km radius of the Project Site.

9.36 Information on protected and priority species is taken principally from INCA records. INCA has carried out ecological surveys across much of the industrial land on South Tees over more than a 20 year period, including on the wider Wilton International site and has been the main ecological organisation collecting ecological data in this location, accumulating a large number of species records relevant to this area. The Environmental Records Information Centre North East was also consulted for any protected or priority species records that it held which were additional to the INCA data.

9.37 Baseline information and views about the potential effects of the Project were also provided by consultees (see *Table 9.1*).

9.2.2 Baseline Survey

9.38 A walkover survey was undertaken on the Project Site on 17th October 2016. It recorded the main habitats types and plant species as well as any signs of flora and fauna species of importance. Weather conditions at the time of the survey were dry, with a moderate breeze and around 14 °C. Further details are provided in *Annex G2*.

9.2.3 Breeding Bird Survey

9.39 The survey methodology followed that recommended by the British Trust for Ornithology used in the Annual Breeding Bird Survey (British Trust for Ornithology, 2013).

9.40 Fieldwork was conducted by INCA and incorporated two site visits, (termed 'early' and 'late') to count the birds present. The surveys were carried out on the 12th April and 12th June 2017 in suitable weather.

9.41 All of the birds seen or heard were recorded (including species and activity). The method involved walking the entire site to within 20 m using binoculars to look ahead of the route so that birds could be identified without disturbance. Further details are provided in *Annex G3.*

9.2.4 Consideration of Potential Project Scenarios, Phasing and Timescales

9.42 Overall the Project proposes the construction and operation of up to 1700 MWe of new CCGT electrical generation plant. Dependant on market conditions at the time of the final investment decision (post to any approved DCO) the build out of the Project could occur under two scenarios based on Sembcorp's financial modelling. These are as follows.

- Scenario One is the complete build of a CCGT generating station with an output capacity of up to 1,700 MW in a single phase starting 'year 1'.

- Scenario Two is the build of two trains with an output capacity of up to 850 MW each divided over two phases: Phase One starting year 1 and Phase Two starting five years after the first train begins operation with construction concurrent with the operation of the first 850 MW CCGT.

9.43 The assumptions implicit to all assessment in terms of the Project execution programme are provided below in *Table 9.3.*

Table 9.3 Overview of Programme for the Two Development Scenarios

Date	Activity
Scenario One – 1700 MWe CCGT – 39 month build and commissioning	
Q1 2019 – Q2 2020	Mobilisation and civils
Q2 2020 – Q1 2021	Major equipment installation
Q1 2021 – Q3 2021	Mechanical and electrical integration
Q3 2021 – Q1 2022	Commissioning
Q1 2022	Operation
Scenario Two – two phased 850 MWe CCGTs (two periods of constructions separated by five years)	
Q1 2019 – Q2 2020	Mobilisation and civils of first unit / train
Q2 2020 – Q1 2021	Major equipment installation
Q1 2021 – Q3 2021	Mechanical and electrical integration
Q3 2021 – Q1 2022	Commissioning
Q1 2022	**Operation of first unit / train**
Q1 2027 – Q2 2028	Mobilisation and civils of second unit / train
Q2 2028 – Q1 2029	Major equipment installation
Q1 2029 – Q3 2029	Mechanical and electrical integration
Q3 2029 – Q1 2030	Commissioning
Q1 2030	Operation of second unit / train

9.2.5 Impact Assessment Methodology and Significance Criteria

9.44 The ecological impact assessment has been undertaken taking account of the assessment methods and criteria described in the Chartered Institute of Ecology and Environmental Management, (CIEEM) (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition (1).

9.45 The information provided reflects the scale of the development and complexity of its potential effects (ie to be proportionate) reflecting the guidance in the following documents.

- Section 5.5 of BS 42020:2013: Biodiversity: Code of practice for planning and development (BSI, 2013).
- Paragraph 193 of the National Planning Policy Framework (NPPF) (DCLG, 2012).
- Paragraphs 1.9 and 1.11 of the Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (CIEEM, 2016).

9.46 The significances of the effects at the Project Site have been assessed by determining the values and sensitivities of the ecological features, and the impacts and their magnitudes on them. The site is a former industrial site comprising extensive areas of hard standing, and the walkover surveys in October 2016 found it supported only a few common habitat types, which did not support any flora, or fauna species of importance. It was assessed as being of negligible ecological value (see *Section 9.5*), and NE agreed that detailed (Phase 2 type) ecological surveys were not required (see *Table 9.1*). All effects have been predicted to be '*Not Significant*' (ie no negative ecological effect of significance at any geographic level, within normal bounds of variation, or within the margin of forecasting error), allowing for all habitat to be lost within the Project Site boundary (see *Section 9.5*). This section does not therefore present further details about other criteria levels of sensitivity, magnitude, or significance.

9.47 The approach to assessing the significance of effects on habitats from the Project's emissions to atmosphere is based on the approach described by Defra / Environment Agency (EA) (2). The approach for European sites of nature conservation importance is described in the HRA report (see *Annex H*). This approach is also used for the SSSIs, Local Wildlife Sites and Ancient Woodlands listed on NE's Ancient Woodland Inventory (AWI), although for Local Wildlife Sites, "*insignificance*" is achieved where the Process Contribution (PC) is < 100% of the relevant critical level or critical load (CL).

(1) http://www.cieem.net/data/files/Publications/EcIA_Guidelines_Terrestrial_Freshwater_and_Coastal_Jan_2016.pdf
(3) https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas

The use of the term *"insignificant"* in the context of Defra / EA approach equates to *"Not significant"* in the context of this ES.

9.3 HABITAT REGULATIONS ASSESSMENT

9.3.1 Introduction

9.48 A HRA has been undertaken as part of the EIA process, due to the Project's proximity to European Sites.

9.49 The approach taken follows the guidance produced by the Defra / EA on screening risks from emissions to air on protected areas for nature conservation (1). It has also taken account of a range of other guidance material such as the Planning Inspectorate's Advice Note 10 (2), and guidance produced by the European Commission (EC) (2011 (3), 2007 (4); 2002 (5), 2000 (6)).

9.3.2 Air Quality Assessment for Nationally and Locally Designated Sites

9.50 In addition to the HRA, a similar assessment has been undertaken within this chapter for nationally and locally designated sites, and information on this is provided in *Annex G1*.

9.51 Assessment of SSSIs sensitive to air pollution within 15 km and local wildlife sites within 2 km are within the scope of the assessment.

9.52 The following SSSIs have been scoped out of assessment as they are insensitive to air quality effects:

- Roseberry Topping SSSI – Geologically important site;
- Langbaurgh Ridge SSSI – Geologically important site;
- Kildale Hall SSSI - Geologically important site;
- Hartlepool Submerged Forest SSSI - Geologically important site; and
- Cliff Ridge SSSI – Geologically important site.

9.53 *Table 9.4* lists those SSSIs that have been scoped in as potentially sensitive to air quality effects.

(3) https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screening-for-protected-conservation-areas
(4) The Planning Inspectorate (2016) *Advice note 10: Habitat Regulations Assessment relevant to nationally significant infrastructure projects*
(5) European Commission (2011) *Guidelines on the Implementation of the Birds and Habitats Directives in Estuaries and Coastal Zones with Particular Attention to Port Development and Dredging.* **Advice Note 10** EC
(6) European Commission (2007) *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC.* EC
(7) European Commission (2002) *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites. Methodological Guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* EC
(8) European Commission (2000) *Managing Natura 2000 Sites - The Provisions of Article 6 of the 'Habitats' Directive 92/43/CEE.* EC

Table 9.4 SSSIs that have been scoped in as potentially sensitive to air quality effects

SSSI Potentially Sensitive to Air Quality Effects	Approx. distance and direction from the Project Site (km)
Lovell Hill Pools	3.0 km SE
Tees and Hartlepool Foreshore and Wetlands	3.9 km W
South Gare and Coatham Sands	4.7 km N
Seal Sands	5.7 km N
Seaton Dunes & Common	6.6 km N
Cowpen Marsh	7.1 km NW
North York Moors	7.6 km S
Saltburn Gill	10.2 km E
Pinkney and Gerrick Woods	14.7 km SE

9.54 Locally designated sites within 2 km of the Project are shown in *Table 9.5.*

Table 9.5 Locally Designated Sites within 2 km

Designated Site	Approx. distance and direction from the Project Site (m)
Wilton Woods Complex (LWS)	1.2 km S
Eston Moor (LWS)	1.9 km S

9.4 BASELINE CONDITIONS

9.4.1 Introduction

9.55 This section contains a description of the baseline ecological conditions on and around the Project Site and draws from the information sources listed in *Section 9.1.5*.

9.4.2 General Ecological Context of the Project Site

9.56 The Project Site is situated on the southwest corner of the Wilton International site, close to the A1053 Greystones Road, and covers an area of approximately 15 ha. The immediately surrounding area to the north and east are operational industrial areas within the Wilton International site. Immediately to the west is the Kettle Beck and beyond that are further operational industrial areas within the Wilton International site. To the south there is approximately 25 ha of arable land which separates the Project Site from the village of Lazenby.

9.4.3 Desk Study Findings

Internationally Designated Sites

9.57 There are four internationally designated sites within a 15 km radius of the Project Site. These are presented, together with their interest features, in *Table 9.6* and *Figure 9.1*.

Table 9.6 Internationally Designated Sites within a 15 km Radius of the Project Site

Designated Site	Distance and Direction from Site	Interest Features
Teesmouth and Cleveland Coast potential Special Protection Area	2.8 km NW	Breeding common tern, *Sterna hirundo* Breeding avocet, *Recurvirostra avocetta.* The proposed expansion to the SPA (pSPA) will only bring the SPA around 200m closer at its nearest point (in practice the width of the River Tees from North Tees Mudflats which are currently the closest point).
Teesmouth & Cleveland Coast Special Protection Area	3.9 km NW	This site qualifies under **Article 4.1** of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive. **During the breeding season:** Little tern *Sterna albifrons*, 37 pairs representing at least 1.5% of the breeding population in Great Britain (4 year mean 1993-1996). **On passage:** Sandwich tern *Sterna sandvicensis*, 2,190 individuals representing at least 5.2% of the population in Great Britain (5 year mean 1991-1995). This site also qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species. **Over winter:** Knot *Calidris canutus*, 4,190 individuals representing at least 1.2% of the wintering Northeastern Canada/Greenland/Iceland/Northwestern Europe population (5 year peak mean 1991/2 - 1995/6). Redshank *Tringa totanus*, 1,648 individuals representing at least 1.1% of the wintering Eastern Atlantic - wintering population (5 year peak mean 87-91). **Assemblage qualification: A wetland of international importance.** The area qualifies under **Article 4.2** of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl. Over winter, the area regularly supports 21,406 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: sanderling *Calidris alba*, lapwing *Vanellus vanellus*, shelduck *Tadorna tadorna*, cormorant *Phalacrocorax carbo*, redshank *Tringa totanus*, knot *Calidris canutus*.
Teesmouth and	3.9 km NW	**Ramsar criterion 5**

Designated Site	Distance and Direction from Site	Interest Features
Cleveland Coast Ramsar		Assemblages of international importance: Species with peak counts in winter: 9528 waterfowl (5 year peak mean 1998/99-2002/2003) **Ramsar criterion 6** Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species with peak counts in spring/autumn: Common redshank , *Tringa totanus totanus*, 883 individuals, representing an average of 0.7% of the GB population (5 year peak mean 1998/9-2002/3) Species with peak counts in winter: Red knot , *Calidris canutus islandica*, W & Southern Africa (wintering) 2579 individuals, representing an average of 0.9% of the GB population (5 year peak mean 1998/9-2002/3)
North York Moors Special Protection Area	7.6 km SE	This site qualifies under **Article 4.1** of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive. **During the breeding season:** Golden plover *Pluvialis apricaria*, 526 pairs representing at least 2.3% of the breeding population in Great Britain. Merlin *Falco columbarius*, 40 pairs representing at least 3.1% of the breeding population in Great Britain.
North York Moors Special Area of Conservation	7.6 km SE	Annex I habitats that are a primary reason for selection of this site. **4010 Northern Atlantic wet heaths with *Erica tetralix*** This site in north-east Yorkshire within the North York Moors National Park contains the largest continuous tract of upland heather moorland in England. M16 *Erica tetralix – Sphagnum compactum* wet heath is the second most extensive vegetation type on the site and is predominantly found on the eastern and northern moors where the soil is less free-draining. Purple moor-grass *Molinia caerulea* and heath rush *Juncus squarrosus* are also common within this community. In the wettest stands bog-mosses, including *Sphagnum tenellum*, occur, and the nationally scarce creeping forget-me-not *Myosotis stolonifera* can be found in acid

Designated Site	Distance and Direction from Site	Interest Features
		moorland streams and shallow pools. **4030 European dry heaths** This site in north-east Yorkshire within the North York Moors National Park contains the largest continuous tract of upland heather moorland in England. Dry heath covers over half the site and forms the main vegetation type on the western, southern and central moors where the soil is free-draining and has only a thin peat layer. The principal NVC type present is H9 *Calluna vulgaris – Deschampsia flexuosa*, with some H10 *Calluna vulgaris – Erica cinerea* heath on well-drained areas throughout the site, and large areas of H12 *Calluna vulgaris – Vaccinium myrtillus* heath on steeper slopes.

Nationally Designated Sites

9.58 There are 15 nationally designated sites within a 15 km radius of the Project Site. The closest of these is Lovell Hill Pools, which is 3 km to the south east. It is notified for its outstanding assemblage of dragonflies and damselflies but it also supports great crested newt, *Triturus cristatus*. The full list of nationally designated sites, along with a brief description of their interest features is given in *Table 9.7* below with the location of those sites shown in *Figure 9.1*.

Table 9.7 Nationally Designated Sites within a 15 km Radius of the Project Site

Designated Site	Distance and Direction from Site	Description and Interest Features
Lovell Hill Pools SSSI	3.0 km SE	The site supports an outstanding assemblage of dragonflies and damselflies.
Tees and Hartlepool Foreshore and Wetlands SSSI	3.9 km W	A discontinuous site comprising several unconnected areas including freshwater pools, grazing marsh, inter tidal mud and rocky foreshore which together support large numbers of migratory and wintering waterbirds.
South Gare and Coatham Sands SSSI	4.7 km N	Of considerable interest for its flora, invertebrate fauna and birdlife. The range of habitats present includes extensive tracts of intertidal mud and sand, sand dunes, saltmarsh and freshwater marsh.
Teesmouth NNR	5.7 km N	The National Nature Reserve (NNR) comprises parts of Seal Sands SSSI and Seaton Dunes & Common SSSI.
Seal Sands SSSI	5.7 km N	An extensive area of intertidal mudflats, with tidal channels that are of great ornithological importance attracting large numbers of migratory wildfowl and wading birds especially during the winter months.
Redcar Rocks SSSI	6.0 km NE	Exposures of rock in the Lower Lias which display most of the stratigraphical interval missing from classic sections along the Yorkshire coast and which are composed of calcareous shales containing characteristic fossil ammonites. When exposed at low

Designated Site	Distance and Direction from Site	Description and Interest Features
		tide the rocks and sands provide an important feeding ground for several species of wading birds.
Seaton Dunes & Common SSSI	6.6 km N	An area of considerable importance for its flora, invertebrate fauna, and bird life. The range of habitats present includes sandy, muddy and rocky foreshore, dunes, dune slacks and dune grassland.
Cowpen Marsh SSSI	7.1 km NW	Includes the largest saltmarsh between Lindisfarne and the Humber Estuary and together with adjacent coastal grazing marshes and mudflats it provides an important wintering site for migratory wildfowl and wading birds.
Roseberry Topping SSSI	7.5 km S	A nationally important palaeobotanical site famous for its Middle Jurassic plant bed laid down about 170 million years ago.
North York Moors SSSI	7.6 km S	The North York Moors contain the largest continuous tract of heather moorland in England. The site is of national importance for its mire and heather moorland vegetation communities and of international importance for its breeding bird populations, particularly merlin and golden plover.
Langbaurgh Ridge SSSI	7.8 km S	A disused quarry along Langbaurgh Ridge exposes sections of the 'Cleveland Dyke'.
Cliff Ridge SSSI	8.5 km S	The upper quarries at Cliff Ridge show the Cleveland Dyke in full cross-section and in contact with thermally altered metamorphosed sediments.
Saltburn Gill SSSI	10.2 km E	Saltburn Gill is a steep sided coastal dene, incised into glacial clays, shales and sandstones of the Lower Jurassic period. The site comprises the eastern slopes of the gill which are of particular importance in supporting one of the few relatively undisturbed areas of mixed deciduous woodland in Cleveland.
Kildale Hall SSSI	11.3 km S	Important for a sequence of minerogenic and organic deposits infilling a former kettlehole. These deposits have yielded a continuous palaeoenvironmental record from the Late Devensian to the Middle Flandrian.
Hartlepool Submerged Forest SSSI	11.3 km N	A peat bed, in the intertidal area, the deposits from which been used to establish the pattern of relative sea level change over the last 5,000 years.
Pinkney and Gerrick Woods	14.7 km SE	An area of deciduous woodland on the steep slopes of Kilton Beck. It is of importance as one of the few ancient woodland sites in Cleveland which remains in a largely semi-natural condition.

Tees and Hartlepool Foreshore and Wetlands
Hartlepool Submerged Forest
Seaton Dunes and Common
South Gare & Coatham Sands
Cowpen Marsh
Seal Sands
Redcar Rocks
Teesmouth and Cleveland Coast
Saltburn Gill
Wilton Woods Complex (LWS)
Eston Moor (LWS)
Lovell Hill Pools
Pinkney and Gerrick Woods
Roseberry Topping
North York Moors
Langbaurgh Ridge
Cliff Ridge
Kildale Hall
North York Moors
North York Moors

SSSI
SPA
SAC
Ramsar
LWS

Indicative Site Boundary
15km Buffer of Site Boundary
Site of Special Scientific Interest (SSSI)
Special Protection Area (SPA)
Special Area of Conservation (SAC)
Ramsar
Local Wildlife Site (LWS)

0 1 2 3 4 5
kilometres

N

SCALE: 1:125,000	VERSION: A01
SIZE: A3	DRAWN: WB
PROJECT: 0375193	CHECKED: CHM
DATE: 16/05/2017	APPROVED: RE

Figure 9.1
Designated Sites Within 15km of Site

ERM

sembcorp

PROJECTION: British National Grid

Path: \\ukbrsdc02\Data\Bristol\Confidential Projects\0375193 TLP2 DCO Support.RE\2. Working Folders\2. GIS\MAPS\PEIR\Fig09.01_0375193_DesignatedSites15km_A01.mxd

Locally Designated Sites

9.59 There are two Local Wildlife Sites (LWS) within a 2 km radius of the Project Site. Wilton Woods, which is located 1.2 km to the south at its closest point. Wilton Woods is a woodland complex part of which comprises ancient semi-natural woodland and plantation on ancient woodland sites, both listed on the Ancient Woodland Inventory (AWI). Eston Moor LWS is located 1.9 km to the south of the Project Site and is designated for lowland heath habitats. No other AWIs occur within 2 km of the Project Site. The location of LWS in relation to the Project Site is shown in *Figure 9.1* and *Figure 9.2*

9.60 There are no Local Nature Reserves (LNRs) within 2 km of the Project Site.

SSSI

LWS

Wilton Woods Complex (LWS)

Lovell Hill Pools

Eston Moor (LWS)

- Indicative Site Boundary
- 2km Buffer of Site Boundary
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)

0 100 200 300 400 500

Metres

N

SCALE: 1:125,000	VERSION: A01
SIZE: A3	DRAWN: WB
PROJECT: 0375193	CHECKED: CHM
DATE: 16/05/2017	APPROVED: RE

Figure 9.2
Designated Sites Within 2km of Site

ERM

sembcorp

PROJECTION: British National Grid

Path: \\ukbrsdc02\Data\Bristol\Confidential Projects\0375193 TLP2 DCO Support.RE\2. Working Folders\2. GIS\MAPS\PEIR\Fig09.02_0375193_DesignatedSites02km_A01.mxd

Protected and Priority Species

9.61 *Table 9.8* summarises information on protected and priority species that have been received in relation to the Project Site and surrounds from raw data that were obtained from the Environmental Records Information Centre North East.

Table 9.8 Protected and Priority Species – Desk Study Information

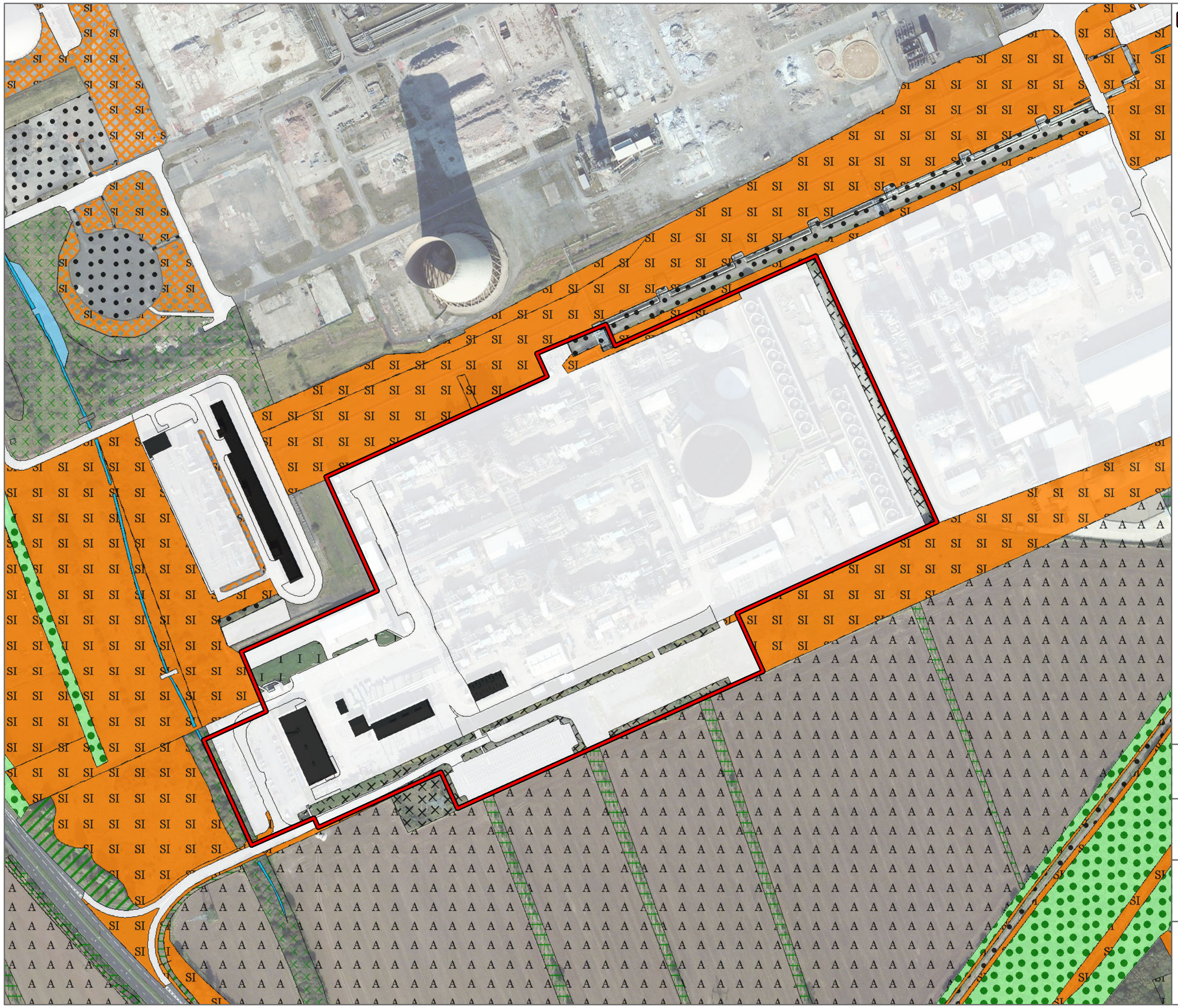
Species	Designation	Distance from site	Comments
Bats	Conservation of Habitats and Species Regulations Schedule 2	0.3 km	Common pipistrelle foraging along the Kettle Beck in 2010.
Water vole	Wildlife and Countryside Act (1981) Schedule 5.	0.5 km	Record from 1998. The species is now thought to be extinct in this part of Redcar & Cleveland
Common toad	Priority Species NERC S.41	0.5 km	Record from Lazenby Mound Pond (2009).
Great crested newt	Conservation of Habitats and Species Regulations Schedule 2	1.2 km	Record from the 1980s.
Reptiles	Wildlife and Countryside Act (1981) Schedule 5.	2 km (approx)	Slow worm in Wilton Woods (post 2000 but date not stated). Common lizard; Coatham Dunes (2015).
Badger	The Protection of Badgers Act (1992)	2 km (approx)	Formerly found in Wilton Woods post 2000 records.
Harvest mouse	Priority Species NERC S.41	3 km	Record from 2016.
Otter	Conservation of Habitats and Species Regulations Schedule 2	3.5 km	Record from 2014.
Invertebrates	Priority Species NERC S.41	1 km (approx)	Dingy Skipper; Grayling; Cinnabar (various post 2010 dates)
Brown hare	Priority Species NERC S.41	1.2 km	Eight records from 2016 ranging from 1.2 km to 4.5 km from the site.

9.4.4 Field Survey Findings

Introduction

9.62 The visit to the Project Site in April found the site supported little vegetation. Most of the vegetated areas of the Project Site supported ephemeral/short perennial with some areas of tall ruderal habitats.

9.63 The sections below summarise the findings of a site walkover survey which was in October 2016, which showed that the Project site was of negligible ecological value; however, following advice from INCA a breeding bird survey was undertaken given the habitats had some suitability for open ground-nesting birds. Further details of this survey are given in *Annex G2, Annex G3* and *Figure 9.3*.



SCALE: 1:3,000	VERSION: A01
SIZE: A3	DRAWN: WB
PROJECT: 0375193	CHECKED: LC
DATE: 16/05/2017	APPROVED: RE

Figure 9.3
Habitat Plan

ERM

sembcorp

PROJECTION: British National Grid

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Path: \\ukbrsdc02\Data\Bristol\Confidential Projects\0375193 TLP2 DCO Support.RE\2. Working Folders\2. GIS\MAPS\PEIR\Fig09.03_0375193_HabitatPlan_A01.mxd

Habitats

9.64 Almost two thirds of the Project site was hard standing from the former power station, the demolition of which was completed between 2013 and 2015. Other areas of hardstanding included two tarmac car parks in the south western and western parts of the Project site. Two operational buildings (sub-stations) remained in the south eastern part of the Project site.

9.65 Outwith the areas of hard standing, the Project site was predominantly bare ground with had very little vegetation cover. That which was present occurred around the margins of the site and comprised common grass and ruderal herb species such as the grasses creeping bent (*Agrostis stolonifera)*, false-oat grass (*Arrenatherum elatius),* red fescue (*Festuca rubra*), Yorkshire fog *(Holcus lanatus)*, and herbs including creeping thistle (*Cirsium arvense)*, willowherb species (*Epilobium* sp.), field horsetail (*Equisetum vulgare)*, creeping cinquefoil *(Potentilla reptans)*, and vetch species (*Vicia* sp.). Bramble (*Rubus fruticosus* agg.) was colonising some of these areas along the northern and eastern edges of the project site, and where the vegetation was sparser yellow wort (*Blackstonia perfoliata)*, melilot species (*Melilotus* sp.), and white clover (*Trifolium repens)* were present. Occasional young trees, predominantly whitebeam (*Sorbus* sp.), occurred around the margins of the former car parks.

9.66 The habitats on the Project site are considered to be of negligible conservation value.

Protected Species

9.67 The sparse habitats on the Project site were largely unsuitable for nesting birds and other faunal species, with the exception of open ground-nesting bird species. The nearest records of species of importance are some distance from the Project site (see *Table 9.11*). A single brown hare was observed on the margins of the Project site in October 2016, and it is likely that it used the site as a resting place. Two operational buildings (sub-stations) remained in the south eastern part of the Project site. They were constructed of brick and metal sheets and are well sealed so they did not offer opportunities for roosting bats or nesting birds.

9.68 The April breeding bird survey recorded a pair of ringed plover (*Charadrius hiaticula*) on the site however, they were not displaying nesting behaviours at the time. During the June breeding bird survey one of the ringed plovers performed a distraction display suggesting that a nest was present on the site, this was not investigated further so as to avoid disturbance.

9.69 The October walkover identified a flock of around 150 herring gulls, (*Larus argentatus*) resting on the hardstanding. This was further supported during the June breeding bird surveys when 49 were recorded resting; none were recorded in the April survey. There are numerous alternative resting areas for herring gulls in the surrounding area.

9.70 No other birds were recorded nesting on the Project site.

9.4.5 The Future Baseline

9.71 The Project Site has no ecological interest of note and is allocated for industrial development regardless of whether the Project was to proceed. It is reasonable to assume that the future baseline for the Project site will be of an industrial nature without any notable ecological interest.

9.72 There are a variety of protected areas in the wider vicinity of the Project Site. It is difficult to state with any certainty how these sites would develop in the future but key trends will be associated with climate change, sea level rise and likely reductions in exposure to nitrogen oxides and the inputs of nitrogen and acid from the atmosphere as regional emissions of these pollutants decrease (see also *Section 7.3.4*).

9.5 ASSESSMENT OF IMPACTS AND EFFECTS

9.5.1 Effects on European Designated Sites

9.73 The Project will have no direct effects on designated sites, and as agreed with Natural England the only secondary effects will be those predicted from emissions to air.

9.74 An HRA has been undertaken to consider the potential for likely significant effects on European designated sites within 15 km of the Project Site. The full methodology and results are presented in the HRA (*Annex H*).

9.75 The results of the Screening Assessment, Stage 1, are presented in *Table 9.9*.

Table 9.9 Screening Stage Summary for European Sites from Project Alone

European Site	Distance from the Project (km to nearest point)	Appropriate Assessment Required
Teesmouth and Cleveland Coast potential Special Protection Area	2.8 km NW	• Not required
Teesmouth and Cleveland Coast Special Protection Area	3.9 km NW	• Not required
Teesmouth and Cleveland Coast Ramsar	3.9 km NW	• Not required
North York Moors Special Protection Area	7.6 km SE	• Not required

9.76 The screening assessment found no likely significant effects on the qualifying interest features of the European sites from the Project alone, or in-combination with other projects. Hence an AA is not considered necessary for the Project.

9.5.2 Effects on Nationally and Locally Designated Sites

9.77 A similar assessment to the HRA has been undertaken within this chapter for nationally and locally designated sites (SSSIs and LWSs) to determine whether or not the 1 percent and 70 percent critical loads are exceeded and there is a potential effect on habitats, and if further assessment is required.

9.78 Five SSSIs have been scoped out of assessment as they are insensitive to effects from air quality impacts (see *Section 9.3.1*). A further nine sites have been identified as potentially sensitive to air quality effects within 15 km.

9.79 There are only two locally designated wildlife site within 2 km of the Project Site, Wilton Woods LWS and Eston Moor LWS, which were identified as having potentially sensitive air quality effects within 2 km.

9.80 The results of the screening assessment are presented in *Table 9.10.* The full assessment and detailed data tables are presented in *Annex G1.*

Table 9.10 Screening Summary for Nationally and Locally Designated Sites

SSSI Potentially Sensitive to Air Quality Effects	Criteria not exceeded or can be Scoped out of requiring further assessment.
Lovell Hill Pools SSSI	Scoped out of requiring further assessment
Tees & Hartlepool Foreshore & Wetlands SSSI	Scoped out of requiring further assessment
South Gare & Coatham Sands SSSI	Scoped out of requiring further assessment
Seal Sands SSSI	Criteria not exceeded
Redcar Rocks SSSI	Criteria not exceeded
Seaton Dunes & Common SSSI	Scoped out of requiring further assessment
Cowpen Marsh SSSI	Scoped out of requiring further assessment
North York Moors SSSI	Scoped out of requiring further assessment
Saltburn Gill SSSI	Criteria not exceeded
Pinkney and Gerrick Woods SSSI	Criteria not exceeded
Wilton Woods Complex LWS	Scoped out of requiring further assessment
Eston Moor LWS	Scoped out of requiring further assessment

9.5.3 Effects on Habitats and Species – Direct Impacts

9.81 The Project Site is of negligible ecological importance and no significant effects from development of the Project are predicted.

9.82 The presence of one pair of nesting ringed plover is not considered important given that there are also plenty of other similar brownfield habitats in the area surrounding the Site and it is anticipated that only one pair would be

displaced. The Site does not support a high abundance of food so it is not expected to support higher numbers of nesting ringed plover [(1)]. This displacement is not considered likely to have a material effect on the ringed plover populations.

9.83 The site will be checked prior to construction commencing to identify that the baseline conditions are still the same. If construction is to occur during the bird breeding season the pre-check survey would also confirm whether the nesting ringed plover are still present and if so, appropriate measures to prevent disturbance to the nest.

9.84 Due to the presence of trees and small areas of vegetation nesting birds could use the site. To avoid contravening legislation vegetation clearance should be undertaken outside of the bird breeding season (being regarded as 1st March - 31st July). Where this cannot be achieved all areas to be cleared will be assessed first by an Ecological Clerk of Works (ECoW) or suitably qualified ecologist, and any nest sites identified. Construction in and around any nesting sites will be prevented until such time as young have either left the area or are capable of strong flight.

9.5.4 Effects on Habitats and Species – Secondary Impacts

9.85 The general absence of species around the Project site means that secondary impacts from noise, lighting, water abstractions/discharges and the presence of people during construction and operation will not result in significant effects. Further details about these impact sources are provided in *Chapter 6* (*Water Quality*), *Chapter 8* (*Noise and Vibration*), *Chapter* 11 (*Landscape and Visual*) and *Chapter 13* (*Social, Economic Characteristics*).

9.86 The potential effects of air pollutants on habitats designated of nature conservation importance in the surrounding area are assessed in *Section 9.5.1 (Effects on European Sites)* and *Section 9.5.2 (Effects on Nationally and Locally Designated Sites)* in Chapter 7(Air Quality). No significant cumulative effects were predicted, and no Appropriate Assessment (AA) in respect of effects on European sites was required. This conclusion was agreed with Natural England.

9.5.5 Cumulative Effects – Construction Phase

9.87 Two cumulative schemes (on the same site) were identified in the scoping process as having the potential to have cumulative effects with the Project on ecological receptors during construction, but no significant cumulative effects were predicted (see *Table 9.11*).

(1) del Hoyo, J., Elliott, A. and Sargatal, J. (2001) Handbook of the Birds of the World. Volume 3: Hoatzin to Auks. Lynx Edicions, Barcelona.

9.5.6 Cumulative Effects - Operation

9.88 The only cumulative effect likely on ecological features with other developments was on habitats of nature conservation importance from cumulative air pollutants. The main effects from air pollution on designated sites in the area surrounding the Project site were from other pollutant sources such as agriculture, transport, and transboundary. It was considered very unlikely that insignificant additions of air pollutants by the Project would combine with insignificant contributions from other proposed industrial developments to result in likely significant effects on the designated sites. No significant cumulative / in-combination effects from air pollutants during operation were predicted (see *Section 9.5.1 (Effects on European Sites)* and *Section 9.5.2 (Effects on Nationally and Locally Designated Sites)* in *Chapter 7* (*Air Quality*), and no Appropriate Assessment (AA) in respect of effects on European sites was required. This conclusion was agreed with Natural England.

9.5.7 Summary of Mitigation Measures

9.89 No specific mitigation is required, as all the effects of the Project are *Not Significant*. A draft CEMP has been prepared and will be developed to include standard mitigation and good practice in relation to advice on construction with regards to nesting birds and mammals.

9.6 CONCLUSIONS

9.90 The Project site has negligible ecological value for habitats and species of flora and fauna. No significant effects are predicted.

9.91 There will be no significant effects on off-site habitats due to changes in air quality, nitrogen deposition and acid deposition.

Table 9.11 Cumulative Construction Effects on Ecological Receptors

Application	Location	Status	Description	Potential contribution to cumulative effects	Screened In at the EIA Scoping stage?	Further assessment	Conclusion
Town and Country Planning Act Applications							
R/2016/0418/FFM	Wilton Waste Treatment Wilton Site Lazenby	Approved	Retention as built of the CSG Wilton facility as a hazardous waste transfer and treatment site for processing a range of hazardous and non-hazardous waste including recovery of waste oils and oil contaminated wastes as well as a biological treatment facility for hazardous liquids.	Construction noise and other physical disturbance of off-site ecological populations.	**Y**	Separated from the Project by circa 500 m and unlikely to have disturbance effects on the same sensitive ecological receptors to the extent any such features are present.	No potential for cumulative effects with the Project
R/2015/0682/FFM	Wilton Waste Treatment ltd Wilton Site Lazenby	Approved	Provision of oil refinery at Wilton Waste Treatment Plant to enable the recovery of lubricating base oils, fuels and other hydrocarbon products from waste oils.	Construction noise and other physical disturbance of off-site ecological populations.	**Y**	Separated from the Project by circa 500 m and unlikely to have disturbance effects on the same sensitive ecological receptors to the extent any such features are present.	No potential for cumulative effects with the Project