East Anglia ONE North and East Anglia TWO Offshore Windfarms

Clarification Note

Onshore Ecology

Applicants: East Anglia TWO Limited and East Anglia ONE North Limited
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Applicable to East Anglia ONE North and East Anglia TWO

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Glossary of Acronyms

APP	Application document
BAP	Biodiversity Action Plan
CCS	Construction Consolidation Site
CIEEM	Chartered Institute of Ecology and Environmental Management
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
EcIA	Ecological Impact Assessment
EPS	European Protected Species
ES	Environmental Statement
ha	Hectare(s)
IAQM	Institute of Air Quality Management
LBAP	Local Biodiversity Action Plan
NOx	Nitrogen Oxide
NRMM	Non-Road Mobile Machinery Emissions
OCoCP	Outline Code of Construction Practice
SoCG	Statement of Common Ground
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

Glossary of Terminology

Applicants	East Anglia TWO Limited / East Anglia ONE North Limited
Construction Consolidation Site	Compounds associated with the onshore works which may include elements such as hard standings, lay down and storage areas for construction materials and equipment, areas for vehicular parking, welfare facilities, wheel washing facilities, workshop facilities and temporary fencing or other means of enclosure.
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
National Grid infrastructure	A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia TWO / East Anglia ONE North project Development Consent Order but will be National Grid owned assets.
National Grid substation	The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia TWO / East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia TWO / Easyt Anglia ONE North project Development Consent Order.
Onshore cable corridor	The corridor within which the onshore cable route will be located.
Onshore cable route	This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.
Onshore cables	The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.
Onshore development area	The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.

Onshore substation	The East Anglia TWO / East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.
SPA crossing	Work No. 12 which comprises the installation of cables within the boundary of the Sandlings Special Protection Area and Leiston - Aldeburgh Site of Special Scientific Interest.
SPA crossing buffer	200m buffers extending east into Work No. 11 from the SPA crossing and extending west into Work No. 13 from the SPA crossing .
Trenchless technique	A method of installation that allows ducts and cables to be installed under an obstruction or area without breaking open the ground and digging a trench (examples of such techniques include horizontal directional drilling, thrust boring, auger boring and pipe ramming).

1 Introduction

1. This clarification note has been prepared by East Anglia TWO Limited and East Anglia ONE North Limited (the Applicants) to clarify aspects of the East Anglia TWO and East Anglia ONE North (the Projects) Development Consent Order (DCO) applications (the Applications).

2. This clarification note relates to onshore ecology matters and addresses queries raised by Natural England, East Suffolk Council and Suffolk County Council (the Councils) through the Statement of Common Ground (SoCG) process.

3. This document is applicable to both the East Anglia ONE North and East Anglia TWO DCO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's procedural decisions on document management of 23rd December 2019 (PD-004). Whilst this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it for the other project submission.

1.1 Purpose

4. In preparing the SoCG with Natural England and the Councils, clarification has been sought with regard to the assessment presented in ***Chapter 22 Onshore Ecology*** of the Environmental Statement (ES) (APP-070). In particular, clarification on the following matters has been requested:

   - Clarification regarding the level of importance assigned to badgers (*meles meles*) (and Nationally Protected Species) in the assessment;
   - Clarification regarding the classification of National Protected Species as low importance within the assessment;
   - An assessment of impacts upon hairy dragonfly;
   - An assessment of impacts to ecological receptors arising from airborne Nitrogen Oxide (NOx) concentrations and acid deposition; and
   - An assessment of impacts to ecological receptors as a result of Non-Road Mobile Machinery Emissions (NRMM).

5. The following sections of this clarification note address those matters in turn.

2 Level of Importance Assigned to Badgers

6. Clarification has been requested by Natural England and the Councils with regards to badgers being considered a low importance ecological receptor rather than moderate (or high) in the Ecological Impact Assessment (EcIA) presented in ***Chapter 22 Onshore Ecology*** (APP-070), given their national importance.

2.1 Defining Importance

7. As referenced in ***Paragraph 69*** of ***Chapter 22 Onshore Ecology*** (APP-070), the Chartered Institute of Ecology and Environmental Management (CIEEM) EcIA guidance (2018) places emphasise on using professional judgement when considering the importance of ecological receptors, based on available guidance, information gathered from surveys and expert advice. Such informed professional judgement was used when assigning importance to the ecological receptors identified in ***Chapter 22 Onshore Ecology*** (APP-070), as well as consideration of their biodiversity value, potential value, secondary or supporting value, social value, economic value, legal protection and multi-functional features.

8. The EcIA presented in ***Chapter 22 Onshore Ecology*** (APP-070) was undertaken in accordance with the CIEEM EcIA guidance (2016). Although this guidance was updated in September 2018, with further minor updates in September 2019, the approach to determining 'importance' has not changed. For the purposes of the EcIA presented in ***Chapter 22 Onshore Ecology*** (APP-070), the level of importance assigned to all identified onshore ecological receptors was qualified using professional judgement, informed by the definitions presented in ***Table 22.8*** of ***Chapter 22 Onshore Ecology*** (APP-070) and reproduced within ***Table 1***.

Table 1 Definitions of Importance Levels for Onshore Ecology (taken from Table 22.8 of the Chapter 22 Onshore Ecology of the ES (APP-070))

Importance	Definition
High	• An internationally designated site or candidate site or an area which the statutory nature conservation organisation has determined meets the published selection criteria for such designation, irrespective of whether or not it has yet been notified; • A nationally designated site or a discrete area, including ancient woodlands, which the statutory nature conservation organisation has determined meets the published selection criteria for national designation (e.g. Site of Special Scientific Interest (SSSI) selection guidelines) irrespective of whether or not it has yet been notified;

Importance	Definition
	• A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat which are essential to maintain the viability of a larger whole; • A viable area of a UK Habitat of Principal Importance or smaller areas of such habitat which are essential to maintain the viability of a larger whole (such as some hedgerows); • A European protected species (EPS) listed in The Conservation of Habitats and Species Regulations 2017; or • A regularly occurring, nationally significant population / number of any internationally important species.
Medium	• County Council / Unitary Authority designated sites and other sites which the designating authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves selected on defined ecological criteria and Wildlife Trust sites; • Viable areas of habitat identified in a Local Biodiversity Action Plan (LBAP); • Semi-natural woodland greater than 0.5 hectares (ha) which is considered to be in 'good condition'; • Any regularly occurring population of a nationally important species which is threatened or rare in the region; or • A regularly occurring, locally significant number of a species identified as important on a regional basis.
Low	• Semi-natural woodland greater than 0.25ha which is considered to be in 'good condition' or greater than 0.5ha in unfavourable condition; • Network of inter-connected hedgerows including some species-rich hedgerows; Individual Important hedgerows or other ancient-countryside linear features; • Viable areas of habitat identified in a sub-county (District / Borough) BAP; • Any regularly occurring population of a nationally important species which is not threatened or rare in the region or county; • Sites / features that are scarce within the District / Borough or which appreciably enrich the District / Borough habitat resource; or • Other features identified as wildlife corridors or migration routes.
Negligible	• Features of value to the immediate area only, e.g. within the site.

2.2 Assigning Importance

9. The ecological surveys undertaken in 2018 and 2019 recorded a relatively low number of badger setts within the onshore development area; as described in ***section 22.5.3.2*** of ***Chapter 22 Onshore Ecology*** (APP-070), five active badger setts were identified (one within the onshore cable corridor and four within the

vicinity of the onshore substations / National Grid infrastructure). Further signs of badger activity recorded during the 2018 and 2019 onshore ecological surveys include:

- One disused sett (within the vicinity of the onshore substation / National Grid infrastructure);
- Three latrines (one within the western extent of the onshore cable corridor and two within the vicinity of the onshore substation / National Grid infrastructure); and
- Eight signs of snuffle holes and pathways (one within the western extent of the onshore cable corridor and seven within the vicinity of the onshore substation / National Grid infrastructure).

10. A key consideration in determining the importance of badger for use in the EcIA presented within ***Chapter 22 Onshore Ecology*** (APP-070) is population size and the proportion of that population potentially impacted by the Projects. Badger is considered to be a regularly occurring species which is not threatened or rare nationally.

11. The Applicants note that badger is afforded legal protection under the Protection of Badgers Act 1992 but is not listed within Annex II or Annex IV of The Habitats Directive (92/43/EEC) or Schedule II of The Conservation of Habitats and Species Regulations 2017. On this basis, badger is not considered to be a European Protected Species (EPS) but is afforded protection under the Protection of Badgers Act 1992. The Applicants recognise that this Act makes it an offence to intentionally or recklessly damage, destroy or obstruct a badger sett, or to disturb badgers within a sett.

12. Considering the findings from the 2018 and 2019 ecology surveys, and in determining the importance of badger, the Applicants note the following:

- Badger is not an EPS listed in The Conservation of Habitats and Species Regulations 2017 or The Habitats Directive (92/43/EEC);
- There is not considered to be a regularly occurring, nationally significant population of badger within the onshore development area; and
- There is not considered to be a regularly occurring, locally significant badger population within the onshore development area when compared to the badger population within Suffolk county.

13. In the context of the Projects, it follows that badger does not meet the thresholds to be classified as a receptor of medium or high importance, as per ***Table 1***. As such the Applicants consider that badger is more appropriately defined as a low

importance receptor (regularly occurring population of a nationally important species, which is not threatened or rare in the region or county), albeit it there is not considered to be a regularly occurring population within the onshore development area.

14. The Applicants consider that the professional judgement used in determining badger to be a low importance receptor for the purposes of this assessment is robust and appropriate and is an approach that is commonly adopted for nationally significant infrastructure projects. It follows that the Applicants consider the assessment of effect magnitude and impact significance presented within ***Chapter 22 Onshore Ecology*** (APP-070) to be robust and representative of the potential ecological impacts of the Projects. The EcIA assesses a moderate adverse impact significance without the implementation of mitigation, and a minor adverse impact significance with mitigation.

3 Assessment of Impacts upon Hairy Dragonfly

15. Natural England has requested information on what consideration has been given to species of dragonfly and damselfly, including the nationally scarce hairy dragonfly, that are known to use the water bodies and terrestrial habitats associated with the Leiston-Aldeburgh SSSI.

16. No evidence of suitable habitat within the onshore development area to support invertebrates was recorded during the 2018 or 2019 ecology surveys. Therefore, no invertebrate (terrestrial or aquatic) survey was undertaken as part of the EcIA, as described in ***section 22.5.3.8*** of ***Chapter 22 Onshore Ecology*** (APP-070). The Applicants have however committed to mitigation measures (embedded mitigation) (***Table 22.4***, ***Chapter 22*** of the ES (APP-070)) which would reduce impacts to invertebrates should they be present at the time of construction (predominately around the habitats along the coastline, including the Leiston-Aldeburgh SSSI).

17. As detailed in ***Table 22.4*** of ***Chapter 22 Onshore Ecology*** (APP-070), the Applicants have committed to the use of a trenchless technique to install underground infrastructure at the landfall to minimise potential impacts. Furthermore, the associated temporary working area within Work No. 8 is located outside the SSSI boundary and the trenchless technique punch-out location (exit pit) will be at sea. There will also be no requirement for vehicular access onto the beach at this location. As such, there will be no potential for direct interaction with the SSSI (or habitats / species that it is known to support) as a result of works at the landfall. The final landfall construction methodology will be detailed within the Landfall Construction Method Statement, secured by Requirement 13 of the ***draft DCO*** (APP-023)).

18. The Projects have minimised overlap of the onshore cable corridor with designated sites (including the Leiston-Aldeburgh SSSI), choosing a crossing point at the narrowest location, and within habitat where invertebrates are less likely to be present. The Applicant will not undertake onshore cable route construction works to cross the Sandlings Special Protection Area (SPA) / Leiston – Aldeburgh SSSI within the SPA / SSSI boundary or associated crossing works within 200m of the SPA / SSSI boundary during the breeding bird season unless otherwise agreed with Natural England that bird breeding activities within 200m of the SPA / SSSI crossing works area have ceased. Although this timing restriction is primarily related to avoid sensitive bird species associated with the

SPA / SSSI, it will also limit the potential for impacts upon the hairy dragonfly, which is not typically active until May to July.

19. The Projects will require the use of a temporary bridge or culvert where the haul road crosses the Hundred River, however this will be adequately sized to avoid impounding flows of water bodies and therefore maintain the habitats as they currently are. Where a culvert may be used, the invert level of the structure will be installed below the natural bed of the channel so that sediment transport and the movement of aquatic invertebrates can be maintained. Furthermore, all bed and bank habitats will be reinstated and where possible improved following completion of the Projects.

20. The methodology for crossing the Hundred River (and other relevant watercourses) will be agreed post-consent with the relevant planning authority through a Watercourse Crossing Method Statement secured under Requirement 22(2) of the ***draft DCO*** (APP-023).

21. Following the implementation of the agreed and embedded mitigation measures (as outlined above), the magnitude of effect on invertebrates is expected to reduce from low to negligible on a high importance receptor representing a temporary residual impact of minor adverse significance.

4 Impacts to Ecological Receptors Arising from Airborne NOx Concentrations and Acid Deposition

22. The Councils raised comments relating to the assessment of impacts on designated sites from NOx emissions and acid deposition.

23. The assessment presented in ***Chapter 19 Air Quality*** (APP-067) describes the impacts of nitrogen deposition at Sandlings SPA / Leiston-Aldeburgh SSSI and Sizewell Marshes SSSI. The findings of the air quality assessment inform the EcIA presented in ***Chapter 22 Onshore Ecology*** (APP-070).

4.1 NOx Emissions

24. ***Section 3*** of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1) presents the NOx Critical Levels and acidity Critical Loads for the Sandlings SPA / Leiston-Aldeburgh SSSI and Sizewell Marshes SSSI. These were obtained from the Air Pollution Information System website (Centre of Ecology and Hydrology, 2020).

25. In accordance with the Institute of Air Quality Management (IAQM) guidance (2019), the assessment presented within the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1) uses only the annual mean Critical Level. Consistent with the approach set out in ***Section 19.4.3.2.13*** of ***Chapter 19 Air Quality*** of the ES (APP-067), it considers in-combination impacts from road traffic with other plans or projects which may affect the same designated site(s), and this includes emissions from agricultural or industrial projects in-combination.

26. Section 6 of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1) presents the consideration of potential impacts of emissions from vehicles travelling along the haul road. Vehicle numbers have been compared to the appropriate screening criteria and are found to be below them. Therefore, impacts are considered to be not significant.

27. Table 3.2 and Table 3.3 of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1) sets out the annual mean concentrations of airborne NOx predicted to result from the Projects developed under scenario 1 and scenario 2, where:

- Scenario 1 – The Projects are built simultaneously (i.e. at the same time); and
- Scenario 2 – The Projects are built with a construction gap. For the onshore infrastructure, this scenario assumes construction of the first Project and full re-instatement, followed by the construction of the second Project.

28. The results show that scenario 1 is likely to result in a NOx impact at or marginally above 1% of the Critical Level annual mean at all transect locations, including those closest to the road network at Sandlings SPA / Leiston-Aldeburgh SSSI and Sizewell Marshes SSSI. Any development-generated or in-combination nutrient nitrogen deposition values above 1% of the Critical Level require further assessment to determine whether any significant impacts upon the SPA / SSSI may result.

29. The determination of the significance of impacts associated with nutrient nitrogen deposition is detailed in ***Chapter 22 Onshore Ecology*** (APP-070). This states that beyond 50m from the road impacts are predicted to be significantly below 1%. The in-combination impacts are predicted to be slightly higher, up to a maximum of 2.2% of the Critical Level. However, considering the background NOx concentrations, the total concentrations are predicted to be less than 50% of the annual mean Critical Level. Due to the rural nature of the area, background NOx concentrations are relatively low.

30. Given the results of the NOx assessment, as well as the impacts associated with nutrient nitrogen deposition caused by construction traffic being below the 1% Critical Load range at all transect locations, including those closest to the road network (***Chapter 19 Air Quality*** (APP-067)), no changes to Sandlings SPA / Leiston-Aldeburgh SSSI and Sizewell Marshes SSSI are predicted in relation to nutrient nitrogen deposition and therefore predicted impacts remain not significant.

4.2 Acid Deposition

31. The features of the Sandlings SPA are not sensitive to the effects of acid deposition on their habitat. However, the habitats for which the Leiston-Aldeburgh SSSI (namely broadleaved woodland and dwarf shrub heath) and Sizewell Marshes SSSI (namely fen, marsh and swamp habitat) are designated are potentially sensitive to such deposition effects and therefore form the basis of the information presented in Table 3.4 and Table 3.5 of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1).

32. The acid sensitive habitats (broadleaved woodland / dwarf shrub heath / fen, marsh and swamp) associated with either Leiston-Aldeburgh SSSI or Sizewell Marshes SSSI have not been recorded within the onshore development area and

therefore are limited to within the respective SSSI boundaries. The closest broadleaved woodland habitat to the onshore development area is approximately 630m south-west, whilst fen, marsh and swamp habitat are located immediately adjacent to the onshore development area.

33. As presented in Table 3.4 and Table 3.5 of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1), the outcome of the acid deposition is shown to be less than 1% of the Critical Load in-combination for construction scenarios 1 and 2. Given the location of the acid sensitive habitats associated with both SSSIs, as well as the predicted acid deposition levels being less than 1% of the Critical Load, impacts on these habitats are considered to be not significant.

5 Impacts to Ecological Receptors as a Result of NRMM

34. The assessment of potential ecological impacts arising from Non-Road Mobile Machinery (NRMM) emissions is based upon the qualitative assessment presented within the ***Air Quality Clarification Note*** submitted at Deadline 1 (document reference ExA.AS-20.D1.V1). During a SoCG meeting (7th October 2020), the Councils requested that a quantitative assessment of NRMM exhaust emissions and consideration of any associated potential ecological impacts. It should be noted that the Applicants are currently undertaking this quantitative assessment and will submit any updates to the Examinations at Deadline 3.

35. ***Section 4*** of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1) discusses potential impacts upon ecological receptors as a result of NRMM. The assessment undertaken comprises a qualitative review of information presented within ***Chapter 6 Project Description*** of the ES (APP-054) and gives consideration to the type, duration and anticipated methodology of works activities within or close to the Sandlings SPA / Leiston-Aldeburgh SSSI. Prevailing wind directions and conservative assumptions on separation distances between work fronts / activities and the SPA / SSSI boundaries were also taken into account.

36. In the vicinity of ecological receptors, the Projects would utilise predominantly earthmoving plant, as by its nature the primary activities along the onshore cable route are temporary haul road construction, excavation and backfilling and haul road removal works. In areas where trenchless techniques may be employed to install underground infrastructure, similar earth-moving plant would be required in addition to diesel power generation, which are standard items of plant used widely on construction sites.

37. As presented within ***Chapter 6 Project Description*** (APP-054), the onshore cable route would be subdivided into sections of 500m to 2km lengths between the Construction Consolidation Sites (CCSs), and work would be undertaken in a practical, logical and sequential manner (e.g. topsoil stripping would be undertaken prior to construction of the haul road in advance of trench excavation). Due to the linear nature of the works area, the number of plant items active in the vicinity of receptors for each activity along the length of each section of cable route is not anticipated to be in excess of that required on a 'standard' construction site. The assertion that 'considerably more NRMM may be required is therefore disputed, and the application of the guidance is relevant and appropriate.

38. Nevertheless, additional consideration has been given to the potential for impacts at designated ecological sites, as the onshore cable route would pass through the Sandlings SPA / Leiston-Aldeburgh SSSI.

39. As outlined in the ***Outline SPA Crossing Method Statement*** (document reference ExA.AS-3.D1.V1), the ES considers two options for the SPA crossing; either an open trench technique or a trenchless technique. The Applicants' preferred option is to use an open trench technique.

40. If open trenching is used, the onshore cable route width would be reduced from 32m to 16.1m for each of the Projects and a temporary haul road using a 'trackmat' system or similar would be installed to minimise impacts and subsequently minimise reinstatement time. For scenario 1 (considered the worst case), open trench works associated with the SPA crossing, both within the SPA and the 200m SPA crossing buffer, are anticipated to be completed within one non-breeding bird season. Space constraints at the SPA crossing mean that a limited number of plant items would be working within this area at any one time. Furthermore, each item of plant present would not necessarily be fully utilised throughout the working day.

41. Given that open trenching techniques associated with crossing the SPA boundary would be undertaken for a proportion of the year no greater than 5 months, it is considered unlikely that they would lead to significant impacts on annual mean pollutant concentrations and associated increases in nutrient nitrogen or acid deposition.

42. Use of a trenchless technique would require a number of items of plant and generators to be operating at the entry pit located outside of the SPA boundary, rather than within the SPA itself, with plant operating continuously during boring operations. Trenchless technique works would take up to a year in total, but would be split across two periods of 5.5 months in order to avoid the breeding bird season. Due to the nature of trenchless technique works, they may be undertaken 24 hours a day. Where any above ground construction activity associated with the trenchless crossing of the SPA takes place within the 200m SPA crossing buffer, these works will be subject to a seasonal restriction between 14th February to 31st August as detailed within the ***Outline SPA Crossing Method Statement*** (document reference ExA.AS-3.D1.V1). As such, it is considered unlikely that such works would lead to significant increases in pollutant concentrations and associated increases in nutrient nitrogen or acid deposition in the vicinity of the SPA.

43. There is a 24-hour Critical Level for NOx; the IAQM guidance (2019) recommends that this is only considered where specifically requested by the regulator, for example in Environmental Permit applications where high, short-

term peaks may occur. Furthermore, the guidance states that the short-term NOx Critical Level of 75µg.m^{-3} was derived for use where concentrations of ozone (O_3) or sulphur dioxide (SO_2) are at or above their Critical Levels, otherwise a 200µg.m^{-3} Critical Level should apply. Given that O_3 and SO_2 concentrations in the UK are generally low, the guidance advises that the 200µg.m^{-3} threshold is appropriate. Therefore, this threshold has been adopted for the purposes of the assessment within the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1).

44. Background NOx concentrations are detailed in ***Table 3.2*** of the ***Air Quality Clarification Note*** (document reference ExA.AS-20.D1.V1) and are characteristically low for an area which is mostly rural in nature. Using the air quality assessment approach of considering twice the annual mean background concentration in consideration of short-term effects, as recommended by the Environment Agency and the Department for the Environment Food and Rural Affairs (Defra) (2016), the background values would be 17.1 µg.m^{-3} and 17.4 µg.m^{-3} at the SPA and SSSI respectively. Therefore, it is unlikely that the works would result in significant short-term concentrations which would lead to exceedance of the 24-hour NOx Critical Level of 200µg.m^{-3}.

45. Onshore cable route works either side of the SPA boundary would also be undertaken according to the same methodology as described above and, with increasing distance from the SPA, emissions from plant would have a diminishing effect.

46. Other potential air borne pollution sources in the vicinity of the SPA are the CCSs. The CCSs would contain welfare facilities for staff powered by small diesel generators, and cranes and other plant for unloading materials. The indicative CCS areas for the onshore cable corridor sections either side of the SPA are shown on ***Figure 6.6c*** and ***Figure 6.6d*** (APP-101). ***Plate 5.1*** shows the wind rose of meteorological conditions as used in the air quality assessment (***section 19.4.3.2.5*** of ***Chapter 19 Air Quality*** (APP-067)). The prevailing wind direction is from the south to west, so emissions from the CCS to the east (within Work No. 11 and likely to be closest to the SPA) would be mostly dispersed away from the SPA, and therefore significant impacts are unlikely.

47. As outlined in the ***Outline Landfall Construction Method Statement*** (document reference ExA.AS-2.D1.V1), it is proposed that a trenchless technique is employed at the landfall. This will avoid direct interaction with the Leiston-Aldeburgh SSSI at this location and as such there will be no significant direct impacts on the intertidal features of the designation. A detailed consideration of potential NRMM impacts on the Leiston-Aldeburgh SSSI is not possible at this stage as the exact locations of works at the landfall will not be known until detailed design of the Projects.

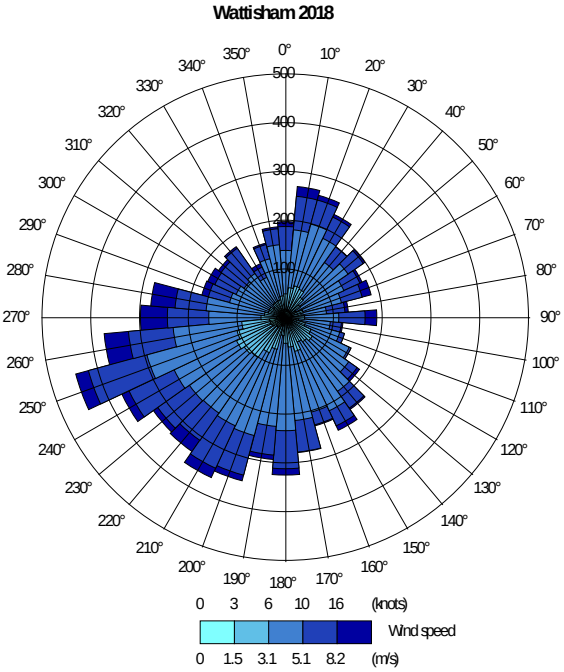

Plate 5.1 Wind Rose of 2018 Meteorological Data from the Wattisham Recording Station

48. The assessment included a number of NRMM control and management measures, as recommended in Defra guidance (Defra 2018), which are included within the ***Outline Code of Construction Practice*** (OCoCP) (APP-578) secured by Requirement 22 of the ***draft DCO*** (APP-023). These measures would ensure that emissions from NRMM are minimised so far as is reasonably practicable.

49. Significant impacts are therefore not anticipated to occur and the Applicants consider that it is appropriate to screen out potential impacts to ecological receptors as a result of non-road mobile machinery emissions.

6 References

Chartered Institute of Ecology and Environmental Management, (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

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