East Anglia
Offshore Wind

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East Anglia THREE

Appendix 21.3

Water Framework Directive Compliance Assessment

Environmental Statement
Volume 3
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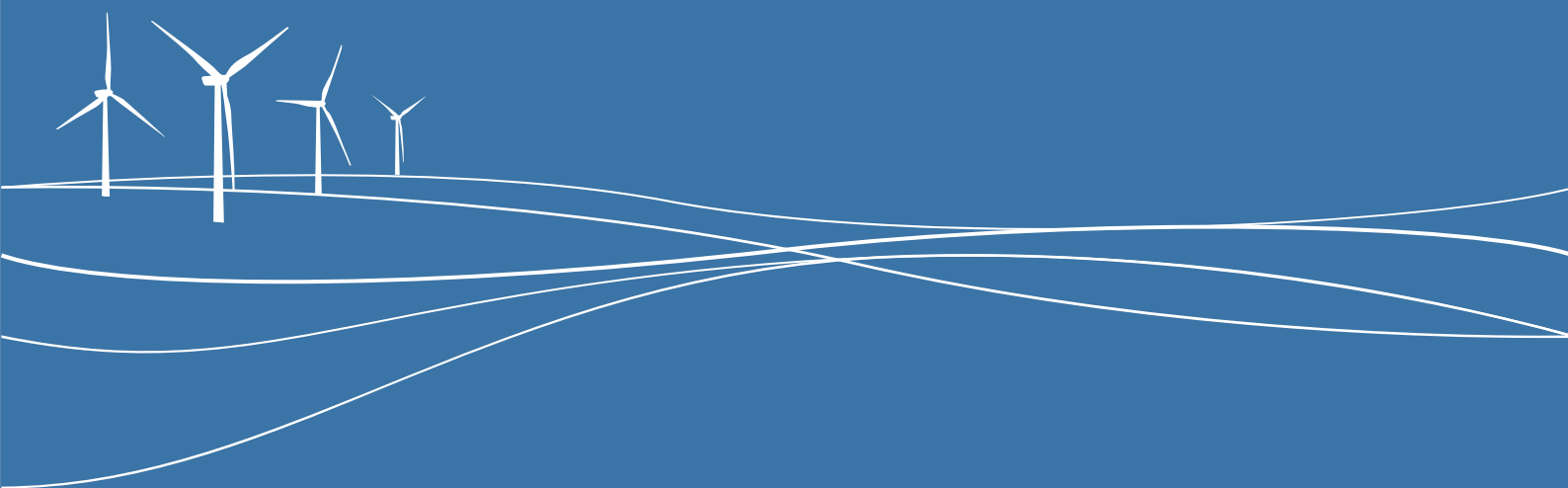

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21.3 WFD COMPLIANCE ASSESSMENT

21.3.1 Introduction

21.3.1.1 Project Description

1. The proposed East Anglia THREE project is the second project to be developed within the East Anglia Zone, in the southern North Sea off the coast of East Anglia. The proposed East Anglia THREE project consists of 172 wind turbines with an installed generating capacity of up to 1,200 megawatts (MW). It would comprise offshore wind turbines and offshore electrical platforms, and offshore and onshore export cables taking power to an onshore electrical substation. The western boundary of the East Anglia THREE site is approximately 69km from the port of Lowestoft.

2. East Anglia THREE Limited (EATL) is currently considering both a High Voltage Direct Current (HVDC) and a Low Frequency Alternating Current (LFAC) electrical solutions for the proposed East Anglia THREE project. It is proposed that offshore export cables from the project would make landfall near Bawdsey in Suffolk and the 37 km long onshore cable route would continue from this point to the indicative substation(s) location adjacent to an existing National Grid substation near Bramford.

3. The proposed East Anglia THREE project would install the cables within ducts that would be installed as part of the East Anglia ONE cable installation. Activities to facilitate the export cable installation would include installation of haul road at locations along the onshore cable route, creation of construction consolidation sites, excavations and backfilling at junction bay locations, construction of jointing bays, cable pulling between jointing bays, and construction of a substation(s).

21.3.1.2 The Water Framework Directive

4. The Water Framework Directive (WFD) (Council Directive 2000/60/EC establishing a framework for community action in the field of water policy) was adopted by the European Commission in December 2000. The WFD requires that all EU Member States must prevent deterioration and protect and enhance the status of aquatic ecosystems. This means that Member States must ensure that new schemes do not adversely impact upon the status of aquatic ecosystems, and that historical modifications that are already impacting need to be addressed. The directive was transposed into law in England and Wales by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003, which mean that the requirements of the WFD need to be considered at all stages of the planning and development process.

5. Unlike the EU Birds and Habitats Directives (EC Directive on the Conservation of Wild Birds (2009/147/EC) and EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC), respectively), which apply only to designated sites, the WFD applies to all water bodies, including those that are man-made. The consideration of the proposals under the WFD will, therefore, apply to all surface and groundwater bodies that have the potential to be impacted by the proposed East Anglia THREE project.

21.3.1.3 Purpose of this Document

6. This WFD compliance assessment determines whether the proposed East Anglia THREE project is compliant with the requirements of the WFD. This report presents the method used in the assessment, and the baseline data used to inform the assessment. A preliminary assessment of compliance is then made, followed by a detailed assessment of compliance for any water bodies that could be impacted upon by the proposed East Anglia THREE project.

21.3.2 The WFD Compliance Assessment Process

21.3.2.1 The Approach to Assessing WFD Compliance

7. There is no formally published methodology for the assessment of plans or projects in relation to undertaking WFD compliance assessments. There are, however, several sets of guidance that have been developed in relation to undertaking such assessments, predominantly written by the Environment Agency. Considered to be the most relevant to the proposed East Anglia THREE project is "Assessing new modifications for compliance with WFD" (NEAS Operational Instruction 488_10) (Environment Agency, 2010), an Environment Agency internal operational instruction which has been produced to guide WFD assessment of new modifications to surface waters.

8. For the purposes of undertaking the WFD compliance assessment for the proposed East Anglia THREE project, it is suggested that the broad methodology outlined in NEAS Operational Instruction 488_10 is used in order to undertake the assessment:

- Stage 1: Collation of baseline information to inform the assessment;
- Stage 2: Scoping;
- Stage 3: Detailed compliance assessment; and
- Stage 4: Summary of mitigation, improvements and monitoring.

9. These stages are described in more detail in the following sections.

21.3.2.2 Stage 1: Collation of Baseline Information

10. The aim of this stage is to collate all available baseline data that will be necessary to complete the East Anglia THREE WFD compliance assessment, including relevant project information and baseline information on the water bodies that could potentially be impacted by the proposed East Anglia THREE project. Stage 1 will include the following main tasks:

- Initial screening to identify relevant water bodies in the study area. Water bodies will be selected for inclusion in the initial stages of the compliance assessment using the following:
  - All surface water bodies that could potentially be directly impacted by the proposed East Anglia THREE project;
  - Any surface water bodies that have direct connectivity (e.g. upstream and downstream) that could potentially be affected by the proposed East Anglia THREE project; and
  - Any groundwater bodies that underlie the proposed East Anglia THREE project.
- Collection of water body baseline data, including on the type and status of each quality element and, if appropriate, reasons for failure and mitigation measures identified. These data will be collated from the revised 2015 Anglian River Basin Management Plan (RBMP) that is currently out for consultation (as presented in the online Catchment Data Explorer, http://environment.data.gov.uk/catchment-planning/).
- Collection of the proposed East Anglia THREE project baseline data, broken down in sufficient detail so that the compliance of each main scheme component can be considered in the assessment. Any embedded mitigation measures will be clearly identified and considered to be in place for the purposes of the assessment.

21.3.2.3 Stage 2: Scoping

11. The aim of this stage is to identify whether there is potential for deterioration in water body status or failure to comply with WFD objectives for any of the water bodies identified in Stage 1. This stage considers potential non-temporary impacts, and impacts on critical or sensitive habitats. This scoping assessment would be undertaken separately for each water body. Water bodies can be screened out of further assessment if it can be satisfactorily demonstrated that there will be no

impacts. If impacts are predicted, it will be necessary to undertake a detailed compliance assessment.

12. The scoping exercise will consider:

- The potential for deterioration in surface water body status (within and between status classes) by adversely affecting biological, hydromorphological and/or physico-chemical quality elements.
- The potential for deterioration in groundwater body status (within and between status classes) by adversely affecting quantitative and chemical quality elements.
- The potential for activities to prevent delivery of WFD status objectives by impacting upon proposed improvement measures or, in the case of artificial heavily modified water bodies (A/HMWBs), mitigation measures already identified by the Environment Agency.
- The potential for deterioration in critical and sensitive habitats, including designated sites and habitats with particular ecological importance.

21.3.2.4 Stage 3: Detailed Compliance Assessment

13. The aim of this stage is to determine whether the proposed East Anglia THREE project could adversely impact upon the water environment, and ensure that measures are developed to protect it. This assessment will determine whether the activities and/or scheme components that have been put forward from Stage 2 will cause deterioration and whether this deterioration will have a significant non-temporary effect on the status of one or more WFD quality elements at water body level. Note that this stage will only be undertaken if impacts cannot be ruled out during the Stage 2 assessment.

21.3.2.5 Stage 4: Summary of Mitigation, Improvements and Monitoring

14. This stage of the process provides a summary of the preceding stages and any mitigation and monitoring proposals for each of the activities assessed.

15. This summary will include:

- An overview of the results of the assessment, including whether proposed scheme activities have been screened out, assessed in detail, or mitigated against.

- A description of any potential impacts on water body status, including a summary of the activities that cause an impact and a breakdown of the water bodies and quality elements that they affect.
- If necessary, a description of the mitigation measures that are required to address any impacts, and prevent deterioration in status or failure to meet WFD objectives set for the relevant water bodies.
- If necessary, a description of any monitoring that is required in order to demonstrate that the scheme will not result in impacts on water body status.

21.3.3 Baseline Information

21.3.3.1 Proposed Project

16. There are two approaches for the construction of the proposed East Anglia THREE project:

- Single Phase - a single phase (up to 1200MW installed in a single construction period); or
- Two Phased - two phases of up to 600MW each, with the start date of each phase of works separated by no more than 18 months).

17. Ducts (including all horizontal directional drilling (HDD) operations) for the onshore cables for the proposed East Anglia THREE project will be installed during the construction of East Anglia ONE.

18. Therefore, under the Single Phase approach, for construction of the proposed East Anglia THREE project the following works would be required:

- If the short duct method if used at the landfall, a ramp would be required to access the beach;
- Creation of one transition bay compound near to the landfall location;
- Installation of one transition bay compound to connect the offshore shore export cables and the onshore export cables;
- Installation of up to two jointing bays (assuming up to two cables are jointed in each bay) at up to 62 locations along the cable route;
- Creation of one jointing bay construction compound at up to 62 locations along the onshore cable route, each with a hardstanding area of 775m^2 within a compound of 3,740m^2.

- Construction Consolidation Sites (CCS) – seven sites covering an aggregated area of up to 1.32ha;
- Access via existing roads and tracks and therefore haul road is required only where joints are placed in remote areas. A maximum of 18.05km of 5.5m width haul road is required. Temporary track matting may be required if ground conditions are very poor;
- Transport to site, cable pulling and jointing at up to 124 (each with 2 cables so 248 joints) jointing bays;
- Installation of up to 248 kiosks for cable maintenance; and
- Up to 300m of open trenching for cables from the end of pre-installed ducts to the substation(s);
- One substation within a 3.04ha compound;
- Up to 235m of open trenching for cables from the substation(s) to ducts pre-installed by National Grid; and
- Reinstatement of land.

19. Under a Two Phased approach the following works would be required:

- If the short duct method if used at the landfall, a ramp would be required to access the beach;
- Creation of two transition bay compounds (one during each Phase) near to the landfall location;
- Installation up to two transition bay compounds (one during each Phase) each to house up to two joints between the offshore export cables and the onshore export cables;
- Creation of two jointing bay construction compounds (one during each Phase) at up to 62 locations along the onshore cable route;
- Installation of up to two jointing bays (assuming two cables are jointed in each bay in each in Phase 1 and two jointed in each bay in Phase 2) at up to 62 locations along the cable route, each with a hardstanding area of 775m^2 within a compound of 3400m^2;
- CCS – seven sites covering an aggregated area of up to 1.32ha;

- Access via existing roads and tracks and therefore haul road is required only where joints are placed in remote areas. A maximum of 18.05km (of 5.5m width) haul road is required. Temporary track matting may be required if ground conditions are very poor. As a worst case scenario, it is assumed that all haul road will be removed and the ground reinstated on completion of Phase 1 and will be replaced and then removed again during Phase 2;
- Transport to site, cable pulling and jointing at up to 124 (62 during Phase 1 and 62 during Phase 2) (each with 2 cables so 248 joints) jointing bays;
- Installation of up to 248 kiosks for cable maintenance; and
- Up to 300m of open trenching for cables from the end of pre-installed ducts to the substation(s);
- Up to two substation(s) within a 3.04ha compound;
- Up to 235m of open trenching for cables from the substation(s) to ducts pre-installed by National Grid; and
- Reinstatement of land.

20. Full details of the Single Phase and Two Phased approaches are provided within Chapter 5 Description of the Development.

21. The final routeing of cables connecting into the substation is not known at the current time. Therefore the pre-installed ducts will end just beyond the western boundary of the screening trees and bunding installed by East Anglia ONE to the east of the East Anglia THREE substation. Therefore the final stretch of cables will be open trenched from the end of the ducts to the substation. This will be a maximum distance of 300m. Likewise, National Grid will install ducts to connect into the existing Bramford substation but these will end at the boundary of the National Grid land, therefore EATL will need to open trench up to the end of these ducts, a distance of up to 235m. In both cases the cables would be laid directly into trenches.

22. As discussed in Chapter 5 Description of the Development (section 5.6.6.2.2) East Anglia THREE Limited (EATL) will investigate opportunities to leave haul road in place between projects and/or phases to further minimise impacts, this would be dependent upon the agreement of individual landowners and the approval of the local planning authorities. EATL consider that for soils, geology and ground conditions it would be more disruptive for all receptors to install and remove haul road twice under the Two Phased approach due to the increased disturbance to the

ground, than to leave it in situ. In addition, given that locations where haul road would be left in place is dependent upon individual landowner decisions and local authority approval, at this stage it is not possible to determine where this may occur and which receptors would be affected. Therefore, this potential case is not assessed independently as it is considered that the impacts of leaving the haul road in situ between phases falls within the magnitude of effects assessed under the two construction approaches presented.

23. During the operational phase, routine maintenance works would be required along the onshore cable route. However, access would be made at jointing bay locations via kiosks.

21.3.3.1.1 Embedded Mitigation Measures

24. The proposed East Anglia THREE project would include a series of mitigation measures that are embedded into the proposed East Anglia THREE project in order to minimise or entirely remove potential impacts on surface and groundwater receptors. The main measures included:

- The jointing bays will be located at least 10m from surface watercourses. This will prevent direct disturbance to watercourses and allow runoff, sediment and contaminants to be managed.
- The jointing bays will have a maximum depth of 2.5m. This will minimise intrusion into the groundwater bodies and prevent impacts on groundwater quality and quantity.
- The operational substation(s) will incorporate a sustainable drainage system (SuDS) to attenuate any increases in flow volumes and velocities resulting from a change in land use, allow sediment to settle out and remain within the site, and intercept any contaminants.
- Any foul drainage arising from the substation site will be collected and treated appropriately, and will not be discharged to surface waters. This will prevent impacts on surface and groundwater quality.
- Environment Agency Pollution Prevention Guidance will be adhered to at all stages of construction and operation, to prevent the ingress of sediment and contaminants into surface and groundwater receptors.

21.3.3.2 Water Bodies

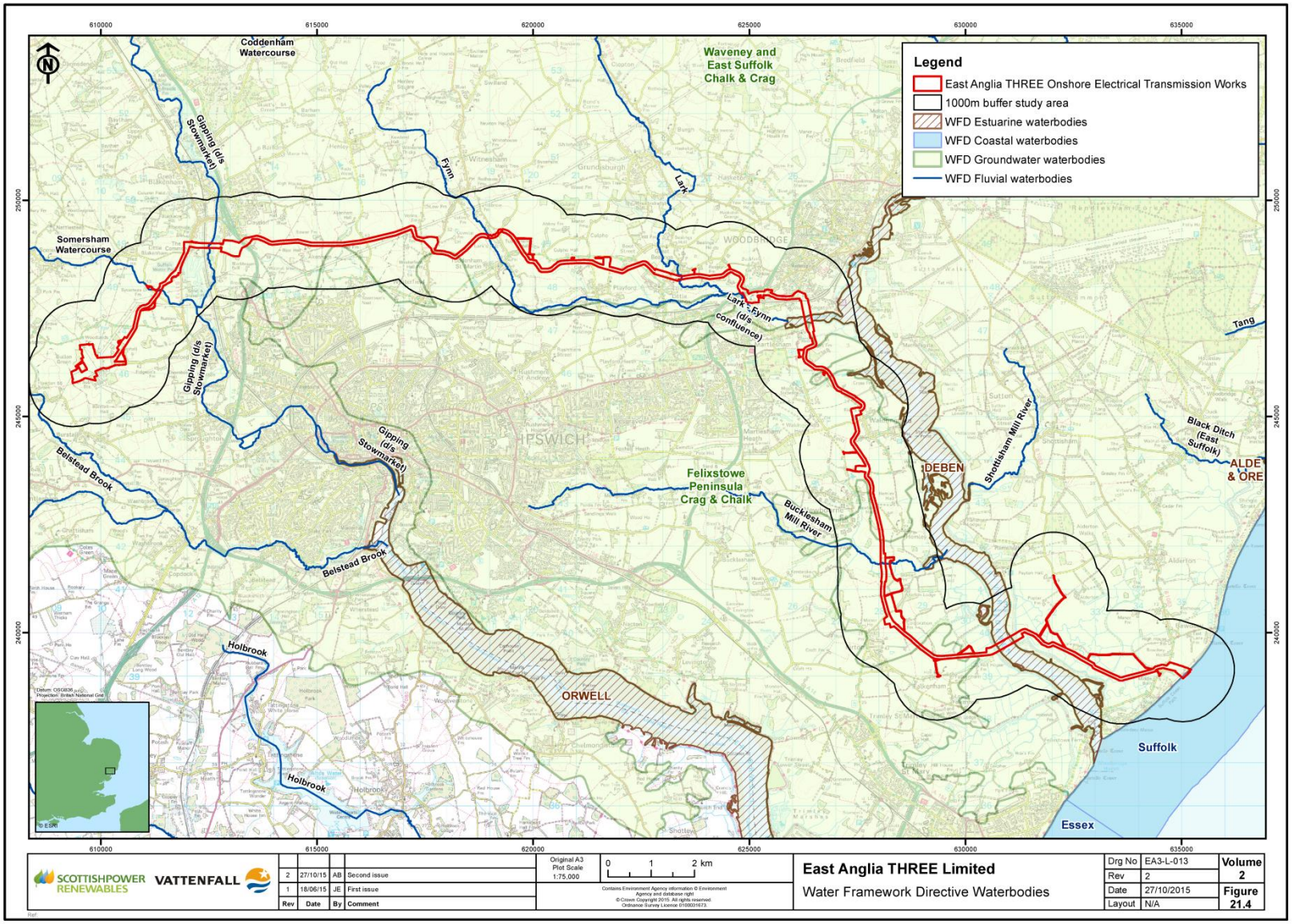
25. *Figure 21.3.1* shows the project outline and the WFD water bodies that could potentially be impacted by the proposals. The water bodies that will be considered in this assessment have been selected on the basis of the criteria set out in section 21.3.2. Basic details of all the water bodies that are located in the vicinity of the proposed East Anglia THREE project are provided in *Table 21.3.1*.

Table 21.3.1 Water bodies in the vicinity of the proposed East Anglia THREE project

Water body name	Water body ID	Type	Status / Potential
Black Ditch (East Suffolk)	GB105035040150	River	Moderate
Shottisham Mill River	GB105035040290	River	Moderate
Deben (Brandeston Bridge - Melton)	GB105035046310	River	Moderate
Bucklesham Mill River	GB105035040280	River	Poor
Lark - Fynn (d/s* confluence)	GB105035040300	River	Moderate
Fynn	GB105035040330	River	Moderate
Lark	GB105035040360	River	Moderate
Gipping (d/s* Stowmarket)	GB105035046280	River	Moderate
Gipping (through Stowmarket)	GB105035046130	River	Moderate
Somersham Watercourse	GB105035040310	River	Good
Alde & Ore	GB520503503800	Transitional	Moderate
Deben	GB520503503900	Transitional	Moderate
Orwell	GB520503613601	Transitional	Moderate
Suffolk	GB650503520002	Coastal	Moderate
Felixstowe Peninsula Crag and Chalk	GB40501G401800	Groundwater	Poor
Waveney and East Suffolk Chalk and Crag	GB40501G400600	Groundwater	Poor

*downstream

26. Additional information on the status of each water body is provided in *Tables 21.3.2* and *21.3.3*. These tables are taken directly from the Environment Agency's Catchment Data Explorer (http://environment.data.gov.uk/catchment-planning/), which represents the most up to date publicly available data on WFD status classifications.


Legend
East Anglia THREE Onshore Electrical Transmission Works
1000m buffer study area
WFD Estuarine waterbodies
WFD Coastal waterbodies
WFD Groundwater waterbodies
WFD Fluvial waterbodies
Coddenham Watercourse
Waveney and East Suffolk Chalk & Crag
Somersham Watercourse
Gipping (d/s Stowmarket)
Fynn
Lark
Lark - Fynn (d/s confluence)
Tang
Belstead Brook
Felixstowe Peninsula Crag & Chalk
Bucklesham Mill River
Shotlisham Mill River
Black Ditch (East Suffolk)
ALDE & ORE
DEBEN
IPSWICH
WOODBRIDGE
Holbrook
ORWELL
Suffolk
Essex
610000
615000
620000
625000
630000
635000
250000
245000
240000
East Anglia THREE Limited
Water Framework Directive Waterbodies
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0 1 2 km
2 27/10/15 AB Second issue
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Table 21.3.2.Characteristics of surface water bodies

Water body	ID	Type	Hydromorphological designation	Ecological status	Chemical status
Alde and Ore	GB52050 3503800	Transitional	A/HMWB (flood protection)	Moderate (dissolved inorganic nitrogen)	Good
Black Ditch (East Suffolk)	GB10503 5040150	River	N/A	Moderate (phosphate)	Good
Bucklesham Mill River	GB10503 5040280	River	N/A	Poor (dissolved oxygen)	Fail (nickel and its compoun ds)
Deben	GB52050 3503900	Transitional	A/HMWB (flood protection)	Moderate (dissolved inorganic nitrogen, zinc)	Good
Deben (Bradenton Bridge - Melton)	GB10503 5046310	River	A/HMWB	Moderate (dissolved oxygen, phosphate)	Good
Fynn	GB10503 5040330	River	N/A	Moderate (fish)	Good
Gipping (d/s Stowmarket)	GB10503 5046280	River	A/HMWB (flood protection)	Moderate (phosphate)	Good
Gipping (through Stowmarket)	GB10503 5046130	River	A/HMWB (flood protection)	Moderate (phosphate)	Good
Lark	GB10503 5040360	River	N/A	Moderate (fish)	Good
Lark - Fynn (d/s confluence)	GB10503 5040300	River	A/HMWB (flood protection)	Moderate (fish, invertebrates, phosphate)	Good
Orwell	GB52050 3613601	Transitional	A/HMWB (land drainage)	Moderate (dissolved inorganic nitrogen)	Fail
Shottisham Mill River	GB10503 5040290	River	N/A	Moderate (macrophytes and phytobenthos combined)	Good
Somersham Watercourse	GB10503 5040310	River	A/HMWB (flood protection)	Good	Good
Suffolk	GB65050 3520002	Coastal	A/HMWB (coastal protection, flood protection)	Moderate (dissolved inorganic nitrogen)	Good

Table 21.3.3 Characteristics of groundwater bodies

Water body	ID	Type	Quantitative status	Chemical status
Felixstowe Peninsula Crag and Chalk	GB40501G401800	Groundwater	Good	Poor (General Chemical Test)
Waveney and East Suffolk Chalk and Crag	GB40501G400600	Groundwater	Poor (quantitative water balance)	Poor (General Chemical Test, Chemical Drinking Water Protected Area

21.3.3.3 Critical or Sensitive Habitats

27. Three sites are crossed by the onshore electrical transmission works. These are: Bawdsey Cliff Site of Special Scientific Interest (SSSI), Deben Estuary Ramsar Special Protection Area (SPA) & SSSI and Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB). The impact assessment for on these sites is described in the East Anglia THREE Environmental Statement Volume 1 (RHDHV 2015):

- Chapter 19 Geology and Ground Conditions of the (Bawdsey Cliff SSSI);
- Chapter 23 Terrestrial Ecology (Suffolk Coast and Heaths AONB); and
- Chapter 24 Onshore Ornithology (Deben Estuary Ramsar, SPA and SSSI).

21.3.4 Scoping

28. To determine which activities are of relevance to the WFD compliance assessment, the ecological, hydromorphological and physico-chemical quality elements in the water bodies identified during Stage 1 as having the potential to be impacted by the proposed East Anglia THREE project have been considered. The potential impacts on each water body are presented in *Tables 21.3.4 to 21.3.7.*

29. The results presented in *Tables 21.3.4 to 21.3.7*demonstrate that, as a result of the character of the proposed works and the embedded mitigation measures that have been included in the design, no surface or groundwater bodies would be affected by the proposed East Anglia THREE project (see section 21.3.3.1). The proposed East Anglia THREE project will not, therefore, result in the deterioration of the status of any surface and groundwater bodies, prevent the achievement of Good Ecological Status or Potential in any of these water bodies, or cause deterioration in any critical or sensitive habitats or protected areas.

30. Therefore, no water bodies have been identified as requiring detailed compliance assessment.

Table 21.3.4.Scoping exercise for river water bodies

Water body	Quality element	Potential impacts Construction	Operation	Detailed assessment required?
Shottisham Mill River (GB105035040290) **Deben (Brandeston Bridge - Melton) (GB105035046310)** **Gipping (through Stowmarket) (GB105035046130)** **Somersham Watercourse (GB105035040310)**	**Biological**	The proposed East Anglia THREE project would be located upstream or downstream of the water body, and no mechanisms for impact on the biological quality elements have been identified.	No mechanism for impact has been identified. See section 21.3.3.1.	No
	Hydromorphological	The proposed East Anglia THREE project would be located upstream or downstream of the water body, and no mechanisms for impact on the hydromorphological quality elements have been identified. No changes to sediment supply, surface flow discharges or pollutant loads to this water body are expected to result from proposed works.		
	Physico-chemical	The proposed East Anglia THREE project would be upstream or downstream of the water body, and no mechanisms for impact on the physico-chemical quality elements have been identified.		
Black Ditch (East Suffolk) (GB105035040150) **Bucklesham Mill River (GB520503503900)** **Lark - Fynn (d/s**	**Biological**	There is potential for the excavation and construction of the jointing bays and associated vehicular movements to increase sediment and contaminant supply to the water body, which could impact on biological quality. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).	No mechanism for impact has been identified. See section 21.3.3.1.	No
	Hydromorphological	The proposed excavation of the jointing bays could potentially result in an increase of sediment supply to this water body. The jointing bay construction compound would contain hardstanding areas of up to 775m^2 which could potentially increase surface water runoff and impact on the		

Water body	Quality element	Potential impacts Construction	Operation	Detailed assessment required?
confluence) (GB105035040300)		hydromorphology of the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).		
Fynn (GB105035040330) **Lark (GB105035040360)**	**Physico-chemical**	There is potential for the excavation and construction of the jointing bays and associated vehicular movements to increase sediment and pollutant supply (e.g. of fuels, oils and construction materials) to the water body, which could adversely affect the physico-chemical status of the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).		
Gipping (d/s Stowmarket) (GB105035046280)	**Biological**	There is potential for the excavation and construction of the jointing bays and associated vehicular movements to increase sediment and contaminant supply to the water body, which could impact on biological quality. The construction of the substation also has the potential to increase the supply of sediment and chemical contaminants to the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).	No mechanism for impact has been identified. See section 21.3.3.1.	No
	Hydromorphological	The proposed excavation of the jointing bays could potentially result in an increase of sediment supply to this water body. The jointing bay construction compound would contain hardstanding areas of up to 775m^2 which could potentially increase surface water runoff and impact on the hydromorphology of the water body. The construction of the substation also has the potential to increase the supply of sediment to the water body and change runoff characteristics. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).		

Water body	Quality element	Potential impacts Construction	Operation	Detailed assessment required?
	Physico-chemical	There is potential for the excavation and construction of the jointing bays and associated vehicular movements to increase sediment and pollutant supply (e.g. of fuels, oils and construction materials) to the water body, which could adversely affect the physico-chemical status of the water body. The construction of the substation also has the potential to increase the supply of sediment and chemical contaminants to the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).		

Table 21.3.5.Scoping exercise for transitional water bodies

Water body	Quality element	Potential impacts Construction	Operation	Detailed assessment required?
Alde & Ore (GB520503503800) **Orwell (GB52050361360)**	**Biological**	The proposed East Anglia THREE project would be located upstream or downstream of the water body, and no mechanisms for impact on the biological quality elements have been identified.	No mechanism for impact has been identified. See section 21.3.3.1.	No
	Hydromorphological	The proposed East Anglia THREE project would be located upstream or downstream of the water body, and no mechanisms for impact on the hydromorphological quality elements have been identified. No changes to sediment supply, surface flow discharges or pollutant loads to this water body are expected to result from proposed works.		
	Physico-chemical	The proposed East Anglia THREE project would be located upstream or downstream of the water body, and no mechanisms for impact on the physico-chemical quality elements have been identified.		

Water body	Quality element	Potential impacts Construction	Operation	Detailed assessment required?
Deben (GB520503503900)	**Biological**	There is potential for the excavation and construction of the jointing bays and associated vehicular movements to increase sediment and pollutant supply to the water body, which could impact on biological quality. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).	No mechanism for impact has been identified. See Section 21.3.3.1.	No
	Hydromorphological	The proposed excavation of the jointing bays could potentially result in an increase of sediment supply to this water body. The jointing bay construction compound would contain hardstanding areas of up to 775m^2 which could potentially increase surface water runoff and impact on the hydromorphology of the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).		
	Physico-chemical	There is potential for the excavation and construction of the jointing bays and associated vehicular movements to increase sediment and pollutant supply (e.g. of fuels, oils and construction materials) to the water body, which could adversely affect the physico-chemical status of the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).		

Table 21.3.6.Scoping exercise for coastal water bodies

Water body	Quality element	Potential impacts		Detailed assessment required?
		Construction	Operation	
Suffolk (GB650503520002)	**Biological**	The proposed East Anglia THREE project would be located upstream of the water body, and no mechanisms for impact on the biological quality elements have been identified.	No mechanism for impact has been identified. See section 21.3.3.1.	No
	Hydromorphological	The proposed East Anglia THREE project would be located upstream of the water body, and no mechanisms for impact on the hydromorphological quality elements have been identified.		
	Physico-chemical	The proposed East Anglia THREE project would be upstream of the water body, no mechanisms for impact on the physico-chemical quality elements have been identified.		
	Chemical	The only intrusive works that could potentially affect the chemical quality of the water bodies are the excavation of jointing bays. However, excavation is limited to a maximum depth of 2.5m, and good practice construction methods will be used to prevent contaminant ingress into surface and groundwater. Any residual impact will be short-term and restricted to a very small proportion of the total area of each water body.		

Table 21.3.7.Scoping exercise for groundwater bodies

Water body	Quality element	Potential impacts		Detailed assessment required?
		Construction	Operation	
Felixstowe Peninsula Crag and Chalk (GB40501G401800)	**Quantitative**	The jointing bay construction compound would contain hardstanding areas of up to 775m^2 which could potentially increase surface water runoff and have impact on the quantitative element of the water body. However, the mitigation measures embedded in the design would prevent adverse impact on water body status (see section 3.1).	No mechanism for impact has been identified. See section 21.3.3.1.	No
Waveney and East Suffolk Chalk and Crag (GB40501G400600)	**Chemical**	The only intrusive works that could potentially affect the chemical quality of the water bodies are the excavation of jointing bays. However, excavation is limited to a maximum depth of 2.5m, and good practice construction methods will be used to prevent contaminant ingress into surface and groundwater. Any residual impact will be short-term and restricted to a very small proportion of the total area of each water body.		

21.3.5 Summary of the Assessment

31. The initial scoping exercise has identified that that due to the character of works and control measures and embedded mitigation included in the design the proposed East Anglia THREE project will not result in the deterioration in the status of any water body. It is not therefore necessary to incorporate additional mitigation measures or monitoring to prevent deterioration in water body status. The proposed East Anglia THREE project is therefore considered to be compliance with the requirements of the WFD.

21.3.6 References

Environment Agency (2015) Anglian Basin Management Plan.

http://www.wfduk.org/reference/assessing-status-water-environment

Environment Agency (2015) Catchment Data Explorer.

http://environment.data.gov.uk/catchment-planning/

Environment Agency (2010) Assessing new modifications for compliance with WFD: Detailed supplementary guidance. NEAS Supplementary Guidance 488_10_SD01.

Royal HaskoningDHV (2015) East Anglia THREE Environmental Statement Volume 1

Appendix 21.3 Ends Here