



# East Anglia THREE Offshore Windfarm

## DCO Non-Material Change Supporting Statement

Prepared by:	Checked by: Rick Campbell	Approved by: Richard Morris
GoBe Consultants Ltd		

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# Abbreviations and Definitions

<b>Acronym</b>	<b>Definition</b>
AMSL	Above Mean Sea Level
BEIS	Department for Business, Energy and Industrial Strategy
CfD	Contract for Difference
CRM	Collision Risk Modelling
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
dML	Deemed Marine Licence
EA THREE	East Anglia THREE Offshore Wind Farm
EATL	East Anglia THREE Limited
EIA	Environmental Impact Assessment
ES	Environmental Statement
GW	Gigawatt
HRA	Habitats Regulations Assessment
LAT	Lowest Astronomical Tide
LoS	Line of Sight
MHWS	Mean High Water Spring
MOD	Ministry of Defence
MSL	Mean Sea Level
MW	Megawatt
NRA	Navigational Risk Assessment
SoS	Secretary of State
WTG	Wind Turbine Generator

# 1 Introduction

## 1.1 Overview

1. This document has been prepared to support the application for a non-material change to the East Anglia THREE Offshore Wind Farm Order 2017 (2017 Order) and explains the proposed amendments to the 2017 Order, with associated justification and supporting information.
2. East Anglia THREE Ltd (EATL) submitted an application for development consent and associated Deemed Marine Licences (dML) for the East Anglia THREE Offshore Wind Farm (EA THREE) in November 2015, with consent granted by the Secretary of State (SoS) for the Department for Business, Energy and Industrial Strategy (BEIS) in August 2017. The 2017 Order granted consent for the development of an offshore wind farm with a gross output of 1,200 Megawatt (MW) (1.2 Gigawatt (GW)), located approximately 69 km off the coast of Suffolk. The 2017 Order consented up to 172 wind turbines and associated offshore infrastructure.
3. The UK Government's mechanism for supporting investment in low carbon generation (Contracts for Difference, CfD) is awarded to projects through a competitive allocation process. In its Contracts for Difference Stakeholder Bulletin dated 14 February 2019, BEIS published a prospective commencement date for Allocation Round 3 of 29 May 2019. The Stakeholder Bulletin notes that the commencement date could be earlier or later than 29 May 2019 but will not be before 1 May 2019 and the commencement date will be confirmed in the Allocation Round notice, which will be published in due course. Determination of this non-material change application before the commencement date of Allocation Round 3 will enable EATL to maximise energy efficiencies for EA THREE and therefore maximise its cost effectiveness when submitting a bid in Allocation Round 3. Subject to the successful award of a CfD, construction of EA THREE is anticipated to commence in 2022.

## 1.2 Approach

4. EATL seeks an amendment to the maximum generating capacity of the EA THREE development, from 1,200 MW (as limited by the 2017 Order) to a maximum generating capacity of 1,400MW. In addition, EATL proposes to include a new design parameter in the Requirements to the 2017 Order to limit the maximum number of gravity base foundations to 100. This will ensure that the increase in generating capacity does not give rise to any physical processes impacts beyond those assessed as part of the worst case when development consent for EA THREE was granted. The Application also seeks to amend requirement 8(3) of the 2017 Order to allow more flexibility in delivery of the phases. This document provides justification for the requested amendment and explains why the change can be considered as a non-material amendment.
5. This application also requests confirmation that there is no upper limit for WTG capacity for the EA THREE project. Whilst it is noted that individual WTG capacity is not secured as a parameter within the 2017 Order, and therefore this does not constitute an amendment to the 2017 Order, maximum WTG capacity is referred to within the EA THREE Environmental Statement (ES), particularly in Chapter 5: Description of Development. As such, confirmation is sought that there is no fixed parameter for WTG capacity in respect of the EA THREE project. EATL can however confirm that the parameters associated with the largest capacity WTG (and associated foundations), as secured in the 2017 Order, will not be exceeded under any development scenario and no amendments are sought in respect of these parameters.
6. This document reviews the receptors assessed within the EA THREE ES and provides an assessment as to whether there will be any changes in significance impact to what was described within the original application in the context of the increase in maximum generating capacity, the limit to the maximum number of gravity base foundations to 100, and no upper maximum limit for WTG capacity. Furthermore, it also considers whether the proposed changes would alter the conclusions of the Habitats Regulations Assessment (HRA) undertaken in respect of the 2017 Order.
7. This document follows the advice and guidance outlined in the Planning Act 2008: Guidance on Changes to Development Consent Orders from the Department for Communities and Local Government (DCLG). The changes proposed are considered in light of the guidance at Section 4 below.

## 1.3 Need for the Consent Amendment

8. Under the 2017 Order EA THREE is able to construct up to 1,200 MW gross electrical output capacity. Taking account of electrical losses to deliver 1,200 MW of electricity to the national grid, EATL request an amendment to the maximum generating capacity of EA THREE, increasing the overall capacity limit to 1,400 MW. This will allow EA THREE to improve the efficiency of the project without changing the physical parameters of the consented project, as detailed below.

9. The amendment will enable EATL to take advantage of technical advancements that emerge in the coming years in terms of wind turbine efficiency. With regard to individual WTG capacity, allowing flexibility will ensure that EA THREE remains cost effective and energy efficient.
10. The amendment will also allow EATL to better position itself for future auctions, allowing for advances in technology to be taken into consideration.
11. The 2017 Order includes parameters for construction and operation of the EA THREE project. These are the same parameters which were used to conduct the Environmental Impact Assessment (EIA) and which formed part of the Environmental Statement (ES) submitted with the development consent application for EA THREE. It is important to note that no amendments are sought to these parameters (see further detail in Section 3 below).
12. Under the 2017 Order, EATL have the flexibility to build the EA THREE project over two phases. This phased approach will not change, save for the amendment to requirement 8(3) referred to above, and a separate application will be made to the Marine Management Organisation (MMO) to seek variations to the dMLs accordingly. This document supports the application for amendment to both DCO and dMLs.

## 2 Maximum parameters

### 2.1 Comparison of consented and proposed envelope parameters

13. A comparison of consented and proposed parameters relevant to the proposed amendment is provided in Table 2-1 below. It is important to note that neither maximum generating capacity nor maximum WTG capacity are, in themselves, parameters that are used to inform the EIA. Rather, these maximum capacity assumptions informed the specific parameters required to establish the worst case envelope required to undertake the assessment (i.e. number of WTG, height of WTG, size of WTG foundations etc).

Table 2-1 Consented envelope and required design envelope changes associated with the non-material amendment request (parameters are taken from Chapter 5 Project Description of the EA THREE ES, with details of consented parameters taken from the 2017 Order).

Relevant Parameter	Consented envelope			DCO/dML Reference	Proposed Change from Consented Parameters
	As stated in the ES Project Description	As stated in the 2017 Order	As stated in the dML		
Development area (offshore)	305 km <sup>2</sup>	305 km <sup>2</sup>		Secured through the Order Limits	No change
Project Generating Capacity	1,200 MW	1,200 MW	600 MW per Phase	Work No. 1(a) DML (Generation Assets Part 1, Paragraph 3 (1)(a))	1,400 MW
Number of WTGs fixed to the seabed on monopile, jacket or suction caisson foundation types	172	172		Work No. 1(a) DML (Generation Assets) Part 1, Paragraph 3(1)(a))	No change to 172 maximum

Relevant Parameter	Consented envelope		DCO/dML Reference	Proposed Change from Consented
Number of WTGs fixed to the seabed on gravity base foundations	172	172	Work No. 1(a) DML (Generation Assets) Part 1, Paragraph 3(1)(a)	Reduction in maximum to 100 (to be secured by a new Requirement)
WTG capacity	7 -12 MW	Not stated	Not stated	No maximum
Maximum Length	664 km	664 km	Requirement 4	No change
Turbine rotor diameter	154 – 220 m	Must not exceed 220 m	Requirement 2(c) DML (Generation Assets) Condition 1(1)(c)	No change
Hub height Mean Sea Level (MSL)	150m	Must not exceed 150.6 m	Requirement 2(b) DML (Generation Assets) Condition 1(1)(b)	No change
Tip height Lowest Astronomical Tide (LAT)	247m	Must not exceed 247 m	Requirement 2(a) DML (Generation Assets) Condition 1(1)(a)	No change
Minimum clearance above sea level (Mean High Water Springs (MHWS))	22 m	Must not exceed 22 m	Requirement 2(e) DML (Generation Assets) Condition 1(1)(e)	No change
Indicative minimum separation between turbines	In a row spacing 675 m Inter-row spacing 900 m	In row spacing 675 m Inter-row spacing 900 m	Requirement 2(d) DML (Generation Assets) Condition 1(1)(d)	No change
Maximum Hammer Energy	3,500 kJ	3,500 kJ	See Schedule 10 and 11 Condition 2(9) and Schedule 12 and 13 Condition 3	No change
Maximum inert material disposed (WTG)	3,010,000 m <sup>3</sup>	3,010,000 m <sup>3</sup>	See Schedule 10 and 11 Condition 2(d)(ii)	No change
<b>Foundation Specifications</b>				
Wind turbine foundation type options	Jackets (on piles or on caissons), gravity base structures, suction caissons, monopiles	Jackets (on piles or on caissons), gravity base structures, suction caissons, monopiles	Requirement 5 DML (Generation Assets) Part 1, Paragraph 3(1)(a) DML (Generation Assets) Condition 4	No change (including with respect to dimensions of respective foundations)
Jacket – Maximum pile diameter	3.5 m	3.5 m	Requirement 5(3)(b) DML (Generation Assets) Condition 4(3)(b)	No change

Relevant Parameter	Consented envelope		DCO/dML Reference	Proposed Change from Consented
Jacket – Maximum suction bucket diameters	10 m	10 m	Requirement 5(3)(b) DML (Generation Assets) Condition 4(3)(b)	No change
Jacket- Maximum number of piles or suction buckets per leg	1	1	Requirement 5(3)(c) DML (Generation Assets) Condition 4(3)(c)	No change
Jacket - Maximum number of legs	4	4	Requirement 5(3)(d) DML (Generation Assets) Condition 4(3)(d)	No change
Gravity Base - Maximum diameter at seabed	60 m	60 m	Requirement 5(1)(a) DML (Generation Assets) Condition 4(1)(a)	No change
Gravity Base – maximum base height (flat base and cylindrical shaft)	12 m	12 m	Requirement 5(1)(b) DML (Generation Assets) Condition 4(1)(b)	No change
Gravity Base - Maximum base height (conical base)	2 m	2 m	Requirement 5(1)(c) DML (Generation Assets) Condition 4(1)(c)	No change
Suction Caisson – Maximum diameter as seabed	30 m	30 m	Requirement 5(2)(a) DML (Generation Assets) Condition 4(2)(a)	No change
Monopile – Maximum diameter	12 m	12 m	Requirement 5(4) DML (Generation Assets) Condition 4(4)	No change
Maximum scour protection for WTGs, accommodation platform, meteorological masts and offshore electrical stations	2,673,260 m <sup>2</sup>	2,673,260 m <sup>2</sup>	Requirement 9(1)	No change in total value.



## 3 Materiality of Changes

### 3.1 Background

14. There is no statutory definition of what constitutes a material or non-material amendment for the purposes of Schedule 6 of the Planning Act 2008 and Part 1 of the Infrastructure Planning (Changes to, and Revocation of, Development Consent Orders) Regulations 2011 (2011 Regulations). However, the Government has issued guidance on this point. Criteria for determining whether an amendment should be material or non-material is outlined in the Department for Communities and Local Government “Planning Act 2008: Guidance on Changes to Development Consent Orders” (December 2015). Paragraphs 9 -16 of this document sets out the four characteristics which act to provide an indication on whether a proposed change to a DCO is material or non-material. The following characteristics are stated to indicate that an amendment is more likely to be considered ‘material’.
1. *A change should be treated as material if it would require an updated Environmental Statement (from that at the time the original DCO was made) to take account of new, or materially different, likely significant effects on the environment).*
  2. *A change is likely to be material if it would invoke a need for a Habitats Regulations Assessment. Similarly, the need for a new or additional licence in respect of European Protected Species is also likely to be indicative of a material change.*
  3. *A change should be treated as material that would authorise the compulsory acquisition of any land, or an interest in or rights over land that was not authorised through the existing DCO.*
  4. *The potential impact of the proposed changes on local people will also be a consideration in determining whether a change is material.*
15. The proposed amendment to the 2017 Order in relation to the increase in wind farm generating capacity has been considered in light of these four characteristics as presented in the following Sections 3.2.1 to 3.2.4.

### 3.2 Materiality of Change

#### 3.2.1 EIA Consideration

1. *A change should be treated as material if it would require an updated Environmental Statement (from that at the time the original DCO was made) to take account of new, or materially different, likely significant effects on the environment).*
16. Within this section EATL has considered the potential implications in relation to all topics assessed during the original EIA process of increasing the maximum generating capacity.
17. Consideration has been given to the effects of the proposed change and whether these changes could result in impacts of significance (in EIA terms) or greater significance to those identified in the existing ES as certified by the SoS under the 2017 Order. A review of this assessment is provided in Table 3-1 below and it should be noted that any impacts relating to cable installation have not been considered as there is no change in the parameters relating to the cables.

Table 3-1 Assessment of the proposed non material changes in the context of the EIA.

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
<p>Marine Geology, Oceanography and Physical Processes</p>	<p>Those relevant potential effects assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>• Changes in suspended sediment concentrations;</li> <li>• Changes in sea bed morphology;</li> <li>• Changes to coastal morphology; and</li> <li>• Changes to tidal and wave regime.</li> </ul> <p>The worst case scenario detailed in the assessment is on the basis of foundation sizes; in this case the worst case scenario is 172 WTGs installed on a 40 m diameter gravity base foundation, as opposed to 100 WTGs with 60 m diameter gravity foundations.</p> <p>Gravity base foundations are considered the worst case as they occupy the largest proportion of the water column, as a solid mass (as opposed to an open lattice of slender columns and cross-members, found in jackets or tripods, or a single slender column like a monopile) (see details of parameters in Table 2-1).</p> <p>In this case, the larger number of WTGs informs the worst case as they will occupy a larger area in the water column, noting that the height of the gravity base foundations is 12m, immaterial of the diameter of the foundation.</p>	<p>The assessment for Marine Geology, Oceanography and Physical Processes is informed by parameters associated with the number, physical footprint and installation methods of the WTGs and their foundations, not the capacity of either the wind farm or individual WTGs.</p> <p>In reference to the proposed amendments, there will be no changes to the parameters that relate to the foundations' sizes (which informs the worst-case scenario – see Table 2-1). In addition, the turbine scenarios and the maximum number of WTGs used to inform the worst case have not changed. However, it is recognised that the worst case assessed was for 100 gravity base foundations and with an increase in overall capacity the number of gravity bases used could also increase. For this reason, and to ensure that the impacts remain as previously assessed, an additional Requirement is proposed to be included in the Amendment Order which restricts the maximum number of gravity base foundations to 100. There are therefore no changes to the parameters that were used to inform the EIA or to the parameters as secured within the 2017 Order (see Table 2-1) which would alter the assessment previously undertaken.</p> <p>In addition, installation methods will not change from that which was previously assessed and secured in the 2017 Order (see Table 2-1)</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES.</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
Marine Water and Sediment Quality	<p>Those relevant potential effects assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>• Re-suspension and deposition of sediments; and</li> <li>• Accidental release of hazardous materials.</li> </ul> <p>The worst case scenario detailed in the assessment is on the basis of foundation sizes. The larger number of WTGs with a smaller size gravity base foundations are considered the worst case scenario as they will occupy a larger proportion of the sea bed in total and therefore require larger amount of sea bed preparation works. This ultimately results in the larger amount of re-suspension of sediments. This scenario results in a maximum volume of inert material to be disposed of associated with seabed preparation works for WTG of 3,010,000 m<sup>3</sup>.</p>	<p>The assessment for Marine Water and Sediment Quality is informed by parameters associated with the number, physical footprint and installation methods of the WTGs and their foundations, not the capacity of either the wind farm or individual WTGs.</p> <p>In reference to the proposed amendments, there will be no changes to the parameters that relate to the foundations' sizes (which informs the worst-case scenario – see Table 2-1). In addition, the turbine scenarios and the maximum number of WTGs used to inform the worst case have not changed. As referred to above, an additional Requirement is proposed to be included in the Amendment Order which restricts the maximum number of gravity base foundations to 100. There are therefore no changes to the parameters that were used to inform the EIA or the parameters as secured within the 2017 Order (see Table 2-1). Importantly the parameters include maximum volumes of material required for seabed preparation, which will not change (3,010,000 m<sup>3</sup>).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES.</b></p>
Underwater Noise and Vibration	<p>This chapter includes an underwater noise assessment, the worst case noise source modelled is impact pile driving of the maximum pile size, with hammer strike energies of up to 3,500 kJ.</p> <p>For consideration of the impact of noise on marine mammals, fish and shellfish, benthic ecology, see those respective sections.</p>	<p>There will be no changes to the maximum hammer energy which informed the worst case scenario and this will not change from what was assessed in the EIA as secured within the 2017 Order (Table 2-1).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES.</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
<p>Benthic, Subtidal and Intertidal Ecology</p>	<p>Those relevant potential impacts assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>• Temporary physical disturbance;</li> <li>• Smothering due to increased suspended sediment;</li> <li>• Remobilisation of contaminated sediment;</li> <li>• Underwater noise and vibration;</li> <li>• Potential impacts on sites of marine conservation interest;</li> <li>• Permanent habitat loss; and</li> <li>• Colonisation of introduced substrate.</li> </ul> <p>The worst case scenario detailed in the ES assessment is based upon a worst case scenario of the largest seabed impact area which equates to the installation of WTG on the largest diameter gravity base foundation with scour protection (a value of 2,550,000 m<sup>2</sup>). The smaller number of WTGs would have required more turbines but at a smaller gravity base foundation and therefore a smaller total impact area.</p> <p>In reference to noise impacts, the greatest impact would arise from the installation of up to two concurrent piling events using a 12m monopile foundation using a maximum of 3,500 kJ hammer energy for a total period of eight months or one pile installed a time over a 15 month period.</p>	<p>The assessment for Benthic, Subtidal and Intertidal Ecology is informed by parameters associated with the number, physical footprint and installation methods of the WTGs and their associated infrastructure, not the capacity of either the wind farm or individual WTG.</p> <p>In reference to the proposed amendments, there will be no changes to the parameters that relate to the foundations' sizes (which informs the worst-case scenario – see Table 2-1). In addition, the turbine scenarios and the maximum number of WTGs used to inform the worst case have not changed. As referred to above, an additional Requirement is proposed to be included in the Amendment Order which restricts the maximum number of gravity base foundations to 100. There are therefore no changes to the parameters that were used to inform the EIA or the parameters as secured within the 2017 Order (see Table 2-1).</p> <p>In addition, WTG installation methods will not change from that assessed in the EIA and secured in the 2017 Order, including those parameters relevant to noise modelling.</p> <p>In terms of physical disturbance and temporary loss of sea bed habitat, EATL can confirm that there will be no exceedance of the maximum impact area of 2,673,000 m<sup>2</sup> which is secured within the 2017 Order (note this value also includes scour protection for the accommodation platform, meteorological mast and offshore electrical stations whereas the value of 2,550,000m<sup>2</sup> is for WTG installation alone) (see Table 2-1).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES.</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
Fish and Shellfish Ecology	<p>Those relevant potential impacts assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>• Physical disturbance and temporary loss of sea bed habitat;</li> <li>• Increase suspended sediment concentrations and sediment re-deposition;</li> <li>• Underwater noise; and</li> <li>• Operational noise.</li> </ul> <p>As with the Benthic, Subtidal and Intertidal Ecology chapter, the worst case scenario detailed in the ES assessment is based upon a worst case scenario of the largest seabed impact area which equates to the installation of WTG on the largest diameter gravity base foundation with scour protection (a value of 2,550,000 m<sup>2</sup>). The smaller number of WTGs would have required more turbines but at a smaller gravity base foundation and therefore a smaller total impact area.</p> <p>In reference to noise impacts, the greatest impact would arise from the installation of up to two concurrent piling events using a 12m monopile foundations using a maximum of 3,500 kJ hammer energy for a total period of eight months or one pile installed a time over a 15 month period.</p>	<p>The assessment for Fish and Shellfish Ecology is informed by parameters associated with the number, physical footprint and installation methods of the WTGs and their associated infrastructure, not the capacity of either the wind farm or individual WTG.</p> <p>In reference to the proposed amendments, there will be no changes to the parameters that relate to the foundations' sizes (which informs the worst-case scenario). In addition, the turbine scenarios and the maximum number of WTGs used to inform the worst case have not changed. As referred to above, an additional Requirement is proposed to be included in the Amendment Order which restricts the maximum number of gravity base foundations to 100. There will be no changes to the maximum hammer energy which informed the worst case scenario and this will not change from what was assessed in the EIA as secured within the 2017 Order (Table 2-1).</p> <p>In term of physical disturbance and temporary loss of sea bed habitat, EATL can confirm that there will be no exceedance of the maximum impact area of 2,673,000 m<sup>2</sup> which is secured within the 2017 Order (note this value includes scour protection for the accommodation platform, meteorological mast and offshore electrical stations whereas the value of 2,550,000m<sup>2</sup> is for WTG installation alone) (see Table 2-1).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
Marine Mammal Ecology	<p>Those relevant potential impacts assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>• Underwater noise from pile driving;</li> <li>• Underwater noise from vessels;</li> <li>• Vessel interaction; and</li> <li>• Underwater noise from seabed, rock dumping and cable installation.</li> </ul> <p>The worst case uses two alternative scenarios to assess temporal and spatial impacts. Temporal impacts are assessed using a worst case scenario of 172 WTG on jacket foundations because this results in the longest total installation time. The spatial worst case considers the maximum area over which displacement could occur at any one time based on two concurrent monopile foundations being installed using a maximum hammer energy of 3,500 kJ.</p> <p>The maximum number of vessels on site at any one time during construction is 55 and it is assumed, for a worst case scenario that all vessels could have thruster system and/or ducted propellers.</p> <p>The assessment also considered impacts relating to underwater noise from seabed preparation, rock dumping and cable installation using ploughing/jetting/pre-trenching or cutting methods.</p> <p>For impacts on prey species see the Benthic, Intertidal and Subtidal Ecology and Fish and Shellfish Sections.</p>	<p>The assessment for Marine Mammal Ecology is informed by parameters that relate to the piling of WTG foundations including foundation sizes and maximum hammer energy. The capacity of both the windfarm or individual WTG are not parameters that are required to inform the assessment.</p> <p>In reference to the proposed amendments, there will be no changes to the parameters that relate to foundation number and sizes and maximum hammer energy and therefore no changes to the parameters that were used to inform the ES assessment and secured within the 2017 Order (see Table 2-1). In addition, mitigation to reduce adverse effects on marine mammals is secured within the 2017 Order (Schedules 10-14, Condition 13(f) and will not change).</p> <p>Further to this, as there will be no changes to the foundation installation methods and the associated consented parameters there will be no changes to the proposed number of vessels visiting the site.</p> <p>There will be no changes to the methods proposed for seabed preparation and associated rock dumping; these methods have been secured in the 2017 Order (see Table 2-1).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
<p>Offshore Ornithology</p>	<p>Those relevant potential impacts assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>• Disturbance and displacement from increased vessel and helicopter activity;</li> <li>• Indirect effects as a result of displacement of prey species due to increase noise and disturbance to seabed;</li> <li>• Collision risk; and</li> <li>• Barrier effects.</li> </ul> <p>In terms of worst case scenario for disturbance/displacement, it was considered that up to 55 vessels would be required, this is on the basis of the construction schedule.</p> <p>Further to this, a worst case scenario was considered for the installation of foundations, it was concluded that the greatest impact would arise from the installation of up to two concurrent piling events using a 12m monopile foundation with a maximum of 3,500 kJ hammer energy for a total period of eight months or one pile installed a time over a 15 month period (two 5 months phases of piling with a 10 month gap between).</p> <p>In reference to spatial impacts i.e. disturbance/ displacement and barrier effects the worst case layout is a maximum of 172 wind turbines with a minimum spacing of 675 m x 900 m between turbines as this creates the most densely packed area within the Order limits.</p> <p>The Collision Risk Modelling (CRM) assesses a scenario of 172 7MW WTG (i.e. the maximum number of the smallest WTG represents the worst case for collision impacts) and uses those relevant turbine specific parameters for the 7MW WTG to inform the modelling. For further details see Appendix A.</p> <p>For impacts on prey species see the Benthic, Intertidal and Subtidal Ecology and Fish and Shellfish Sections.</p>	<p>The ES assessment (excluding the CRM) is informed by parameters that relate to the number, size and layout of WTGs and the piling of WTG foundations including maximum hammer energy. The capacity of both the windfarm or individual WTG are not parameters that are required to inform the assessment.</p> <p>In addition, WTG installation methods will not change from that which was assessed in the EIA as secured in the 2017 Order, including those parameters relevant to noise modelling or number of vessel movements.</p> <p>With regard to the CRM, a note has been provided in Appendix A that reviews the worst case collision estimates that informed the EIA in the context of the proposed increase in maximum generating capacity. Whilst the capacity of both the windfarm or individual WTG are not parameters that are required to inform the assessment, assumptions are made for the CRM regarding WTG parameters for the smallest WTG. The note within Appendix A therefore provides a comparison of the annual collision risk estimates for the worst case that informed the EIA (172 x 7MW WTG) to the annual collision risk estimates associated with the parameters for the largest WTG (i.e. a 12MW WTG using the maximum consented limits set out in Table 2-1) – this comparison was not previously presented in the EIA. The detail presented in Appendix A confirms that 134 of the largest WTG would have no greater impact than that previously assessed. Given the maximum capacity will be limited to 1,400MW it will not be possible to install any more than 116 of the largest size of WTG (12MW) therefore the annual collision risk estimates assessed in the EIA will not be exceeded under any circumstance.</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
Commercial Fisheries	<p>Those relevant potential impacts assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>Adverse impacts on commercially exploited fish and shellfish populations;</li> <li>Temporary/complete loss or restricted access to traditional fishing grounds;</li> <li>Safety issues for fishing vessels;</li> <li>Increased steaming times to fishing grounds;</li> <li>Obstacles on the seabed;</li> <li>Interference with fishing activities; and</li> <li>Displacement of fishing activity into other areas.</li> </ul> <p>The assessment is based upon a maximum of 172 WTGs separated at a minimum distance of 675 m x 900 m and with temporary transitory 500m safety zones around installed or partially installed infrastructure leading to a period of total exclusion of all fishing activities from the entire EA THREE site.</p>	<p>The assessment for Commercial Fisheries is informed by the maximum number of WTGs, with minimum spacing requirement over a maximum area which in this case relates to the consented array Order limits. The maximum capacity of the windfarm and/or the maximum capacity of individual WTG, in themselves, do not inform the assessment.</p> <p>EATL can confirm that the maximum number of WTGs will not increase, nor will there be any change to the minimum spacing requirements and maximum area of offshore development as secured in the 2017 Order (see Table 2-1).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES.</b></p>
Shipping and Navigation	<p>Those relevant potential impacts assessed within the EA THREE ES comprise:</p> <ul style="list-style-type: none"> <li>Commercial and recreational vessel to vessel collision or encounter risk;</li> <li>Commercial and recreational vessel collision with partially constructed or deconstructed structures;</li> <li>Commercial and recreational vessel deviations;</li> <li>Impacts on operations within ports; and</li> <li>Reduced emergency response capability/ oil spill response owing to the presence of EA THREE.</li> </ul> <p>This assessment is informed by a Navigational Risk Assessment (NRA) model which is based upon two worst case layouts. Layout one includes 172 WTGs with a maximum separation distance (1,250m x 1,250 m) and therefore a 100% fill of the array order limits. The second worst case scenario layout option modelled, is use of 172 WTGs but with the minimum separation distance (675m x 900m) therefore increasing the amount of available sea room but with less manoeuvre room between WTGs. The maximum wind turbine foundation size considered within these layouts is the jacket suction caisson foundation which is considered to have the overall largest maximum dimensions.</p>	<p>The assessment for shipping and navigation is informed by the maximum number and positions of WTGs and associated foundations. The maximum capacity of the windfarm and/or the maximum capacity of individual WTG, in themselves, do not inform the assessment.</p> <p>EATL can confirm that the maximum number of WTGs will not increase, nor will there be any change in the minimum spacing requirements and maximum area of offshore development as secured in the 2017 Order (see Table 2-1).</p> <p>No parameters that are used to inform the NRA model will change from what was assessed in the EIA and secured in the 2017 Order (Table 2-1).</p> <p><b>Therefore, the proposed amendments will not result in any additional impacts, or impacts of greater significance, than those described in the ES.</b></p>



EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
<p>Aviation and Ministry of Defence (MOD)</p>	<p>Effects identified on Aviation and MOD receptors associated with the construction, operation and decommissioning of EA THREE within the ES, in summary, include:</p> <ul style="list-style-type: none"> <li>• Creation of aviation obstacle environment;</li> <li>• Wind turbines causing permanent interference on military radar; and</li> <li>• Increased air traffic in the area related to windfarm activities.</li> </ul> <p>This assessment was based upon two layouts; one layout is on the basis of 100 WTGs with a maximum blade tip height of 247 m Above Mean Sea Level (AMSL) and the other is 172 WTGs with a maximum tip height of 181 m. Further to this a radar Line of Sight (LoS) model has been undertaken based on a maximum wind turbine tip height of 247 m.</p>	<p>The assessment for Aviation and MOD receptors is informed by the maximum size, number and location of infrastructure. The maximum capacity of the windfarm and/or the maximum capacity of individual WTG, in themselves, do not inform the assessment.</p> <p>In reference to the radar LoS model which informs the assessment, there are no changes to the parameters which form the basis of the model. In addition mitigation to avoid adverse effects on air defence radar is secured within the 2017 Order by Requirement 33 and this will not change (see Table 2-1).</p> <p>EATL can confirm that the parameters used in the assessment and the associated radar LoS model such as maximum WTG tip height are secured in the 2017 Order and will not change (see Table 2-1).</p> <p><b>There will therefore be no change in impact significance from the proposed amendments.</b></p>

EIA Topic	Impacts as Described in the ES Chapter	Change in Impact Significance
<p>Offshore Archaeology and Cultural Heritage</p>	<p>Effects identified on offshore archaeology and cultural heritage associated with the construction, operation and decommissioning of EA THREE within the ES, in summary, include:</p> <ul style="list-style-type: none"> <li>• Direct disturbance to archaeological receptors and/or their physical setting;</li> <li>• Indirect disturbance of archaeological receptors and/or their physical setting from changes to hydrodynamic and sedimentary regimes; and</li> <li>• Changes to historic seascape character.</li> </ul> <p>This assessment was based on a worst case scenario which resulted in the maximum possible disturbance to the sea bed via sea bed preparation works (dredging and disposal), installation of foundations and associated scour protection.</p> <p>The WTG foundation proposed for the worst case scenario is the 60 m gravity base foundation as it has the largest foundation and scour footprint as discussed above in the Benthic, Intertidal and Subtidal section.</p>	<p>The assessment for Offshore Archaeology and Cultural Heritage is informed by parameters associated with the number, physical footprint and installation methods of the WTGs and their associated infrastructure, not the capacity of either the wind farm or individual WTG.</p> <p>In reference to the proposed amendments, EATL can confirm that the parameters that were used to inform the worst case scenario including disposal values and scour protection impact areas will not change from what was assessed in the EIA as secured within the 2017 Order (see Table 2-1). In addition, WTG installation methods are not changing from that which was assessed.</p> <p>In term of physical disturbance and temporary loss of sea bed habitat, EATL can confirm that there will be no exceedance of the maximum impact area of 2,673,260 m<sup>2</sup> which is secured within the 2017 Order (note this value includes scour protection for the accommodation platform, meteorological mast and offshore electrical stations) (see Table 2-1).</p> <p><b>There will therefore be no change in impact significance from the proposed amendments.</b></p>
<p>Infrastructure and Other Users</p>	<p>Effects identified on Infrastructure and Other Users associated with the construction, operation and decommissioning of EA THREE within the ES, in summary, include:</p> <ul style="list-style-type: none"> <li>• Impacts on other UK windfarms;</li> <li>• Increased burial of existing cables and pipelines;</li> <li>• Interference and damage to sub-sea cables and pipelines;</li> <li>• Disruption to aggregate extraction activity;</li> <li>• Disruption to oil and gas activity;</li> <li>• Disruption of MOD activity; and</li> <li>• Disruption of unexploded ordnance.</li> </ul> <p>The assessment was based on a worst case scenario of the entire area of the offshore Order limits being occupied, there is no explicit mention of WTG capacity or maximum generating capacity.</p>	<p>The Infrastructure and Other Users chapter assessment is on the basis of the overall space occupied by the WTGs i.e. the offshore Order limits rather than the turbines themselves which will not change and remain within the consented Order limits.</p> <p><b>There will therefore be no change in impact significance from the proposed amendments.</b></p>

### 3.2.2 Habitat Regulation Assessment Consideration

*“A change is likely to be material if it would invoke a need for a Habitats Regulations Assessment. Similarly, the need for a new or additional licence in respect of European Protected Species is also likely to be indicative of a material change.”*

18. As stated in Section 3 above, in order to achieve the proposed maximum generating capacity of 1,400 MW there will be no exceedance in the parameters secured in the 2017 Order. The increase in maximum generating capacity will result in no more than a clerical change to the 2017 Order. In addition, and as concluded above the amendment does not give rise to any impacts beyond those already assessed and therefore no revision to the EIA is required.
19. It is also noted that the designation of new designated sites (or changes to existing sites) might trigger the need to complete a revised HRA as part of the non-material change process. Since EA THREE received its consent the Outer Thames pSPA and Greater Wash SPA have been officially designated. Although official designation occurred following the grant of development consent, these European sites were considered within the Habitats Regulations Assessment.
20. The proposed changes will not introduce the need for a new, or revised, HRA.

### 3.2.3 Compulsory Acquisition

*“A change should be treated as material that would authorise the compulsory acquisition of any land, or an interest in or rights over land that was not authorised through the existing DCO.”*

21. The proposed change applies to activities being undertaken within the existing DCO Order limits and in offshore areas that will be leased to the project by The Crown Estate. As such, the possible requirement for compulsory acquisition does not arise.

### 3.2.4 Local Population

*“The potential impact of the proposed changes on local people will also be a consideration in determining whether a change is material.”*

22. As discussed above in Section 3.2.1 there will be no changes in impact significance in relation to commercial fisheries and shipping and navigation and therefore the proposed amendment will not affect local offshore stakeholders.

## 4 Pre-Submission Stakeholder Consultation

23. EATL will submit a statement setting out the details of the steps EATL has taken to comply with the requirements of regulations 6 and 7 of the 2011 Regulations (Consultation and Publicity Statement) in due course.
24. In the meantime, this section outlines all consultation that has been or will be undertaken as part of the process to request a non-material change.

### 4.1 Pre-Application Consultation

25. EATL has undertaken informal pre-application consultation with the Marine Management Organisation, Natural England, Historic England, The Crown Estate, Suffolk County Council, Suffolk Coastal District Council and Mid Suffolk District Council in order to brief consultees on the nature of the proposed amendments.

Table 4-1 Summary of pre-submission consultation responses

Consultee	Date of Consultation	Consultation Format	Summary of Consultation
Marine Management Organisation	20th February 2019	Phone call	Advised of proposed Non-Material Change and agreed process for change to deemed Marine License. The Marine Management Organisation will be included in the consultation process.
Natural England	22nd January 2019	Phone call	Advised of proposed Non-Material Change and agreed Natural England would be included in consultation process.
Historic England	8th March 2019	Phone call	<p>Historic England were advised of the proposed Non-Material Change.</p> <p>As the proposed changes will not alter any of the parameters used in the assessment there will be no change to the impacts previously assessed.</p> <p>Because of the limited changes to the project it was agreed with Historic England that they do not need to be consulted in relation to the non-material change.</p>
The Crown Estate	27th February 2019	Email	<p>The Crown Estate were advised the of proposed Non-Material Change.</p> <p>As the proposed changes will not alter any of the parameters used in the assessment there will be no change to the impacts previously assessed. The Crown Rights article (Article 37) will not change.</p> <p>Because of the limited changes to the project it was agreed with The Crown Estate that they do not need to be consulted in relation to the non-material change.</p>
Suffolk County Council	7th February 2019	Meeting	<p>The Local Planning Authorities were advised of proposed Non-Material Change as part of a regular programme of updates.</p> <p>As the proposed changes will not alter any of the onshore parameters of the project, and the Local Planning Authorities do not have an offshore interest, it was agreed that the Local Planning Authorities would not be included as a consultee.</p>
Suffolk Coastal District Council			
Mid Suffolk District Council			

## 4.2 Post-Application Process

57. The 2011 Regulations set out, in regulations 6 and 7, how the Application is to be published and consulted on. Regulation 6 requires a notice of the Application (Regulation 6 Notice) to be published for two consecutive weeks in one or more local newspapers and in any other publication necessary in order to ensure that notice of the Application is give in the vicinity of the land. The Regulation 6 Notice will be published in the following newspapers:

- Fishing News;
- East Anglian Daily Times;
- Eastern Daily Press;
- Ipswich Star.

58. Further, as set out in regulation 7 of the 2011 Regulations, EATL is required to consult each person who has the benefit of the 2017 Order, each person that was notified of the application for the 2017 Order and any other person who may be directly affected by the changes proposed in the Application. Regulation 7(3) allows for this list of consultees to be reduced with the consent of the Secretary of State.

59. On 28 February 2019, EATL wrote to BEIS requesting Secretary of State consent for a reduced consultee list. Further justification for the reduced list of consultees was provided to BEIS on 12 March 2019. On 15 March 2019, BEIS responded advising that a revised consultation list will be confirmed following submission of the Application to BEIS. A copy of this Application and supporting documents will be sent to the agreed consultees at the same time as the Regulation 6 Notice is published.

60. A copy of the newspaper notices, correspondence to the consultees and confirmation of the dates that these were published or sent will be set out and confirmed in the Consultation and Publicity Statement.

## 5 Conclusion

61. EATL is seeking to amend the 2017 Order for the EA THREE offshore wind farm to increase its maximum generating capacity from 1,200MW to 1,400MW, with no maximum WTG capacity. As a consequence of this, and to ensure that impacts do not differ from those previously assessed, EATL has also proposed that an additional Requirement is included in the Amendment Order which restricts the maximum number of gravity base foundations to 100. An amendment to requirement 8(3) is also proposed to allow additional flexibility in the delivery of a phased construction.

62. Taking into account the four tests outlined in the 2015 DCLG Guidance on Changes to Development Consent Orders, it is considered that the proposed amendments have been demonstrated to be non-material in nature due to there being no exceedance in the maximum consented parameters and therefore no changes in impact significance as described in the original ES.