

# **Vattenfall Wind Power Ltd**

## **Thanet Extension Offshore Wind Farm**

### **Appendix 22 to Deadline 2 Submission: Draft Site Integrity Plan**

Relevant Examination Deadline: 2

Submitted by Vattenfall Wind Power Ltd

Date: February 2019

Revision A

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Date of Approval:	February 2019
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## Appendices referred to in this document

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Appendix 21 to this revised Report to Inform Appropriate Assessment  
Deadline 2 Submission





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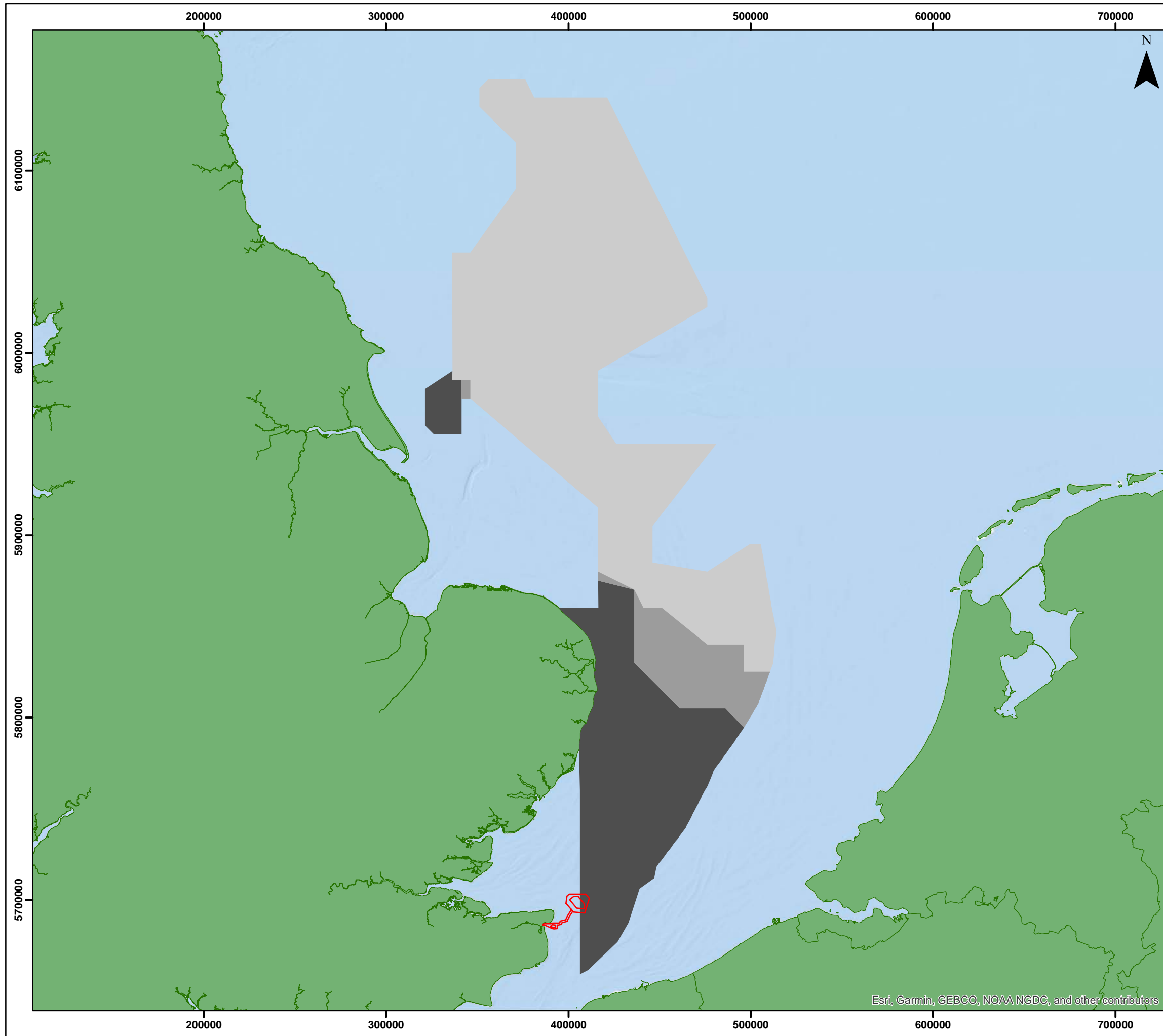
## 1 Introduction

- 1 The current document provides the Site Integrity Plan (SIP) for Thanet Extension Offshore Wind Farm (Thanet Extension), in relation to the Southern North Sea (SNS) Site of Community Importance (SCI). The purpose of the SIP is to provide certainty that the conclusions of the Report to Inform Appropriate Assessment (RIAA, PINS Ref APP-031/ Application Ref 5.2), specifically the conclusion throughout of no adverse effect on integrity (AEoI), will remain valid. It should be noted that for consistency the Applicant has maintained the use of the Application Reference (PINS Ref APP-031/ Application Ref 5.2) within this document for the RIAA; however, the RIAA has been revised and is submitted as Appendix 21 of the Applicant's Deadline 2 Submission. That certainty is provided through the identification of risk, in terms of construction works undertaken by projects other than Thanet Extension, and the inclusion of measures to manage that risk and ensure any in-combination impact would remain within the thresholds as defined within the RIAA and therefore the conclusions of no AEoI will be retained.
- 2 In Natural England's Written Representation (PINS Ref REP1-113), it is noted that the BEIS Review of Consents concluded that provided a SIP is placed on all Development Consent Orders (DCOs) (in relation to HRA and in-combination impacts on the Southern North Sea SCI for harbour porpoise), there will be no adverse impact on site integrity. Natural England further noted that although they agree that SIPs are a method to prevent AEoI on site integrity, timeframes also need to be agreed (i.e. at what point is it determined and agreed that conditions laid out in the SIP are or are not required). Natural England suggest the process is addressed after the next Contracts for Difference stage has been concluded and again as each project reaches Final Investment Decision (FID).
- 3 The Applicant broadly agrees with the proposed approach by Natural England of reviewing the SIP in line with an early event (e.g. CfD) and a late event (e.g. FID); however, the Applicant proposes linking the first review to the first noisy event as follows:
  1. First review/ update of the SIP four months prior to pre-construction geophysical surveys (first noisy event); and
  2. Review/ update of the SIP at FID.

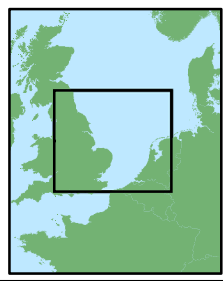
# THANET EXTENSION OFFSHORE WIND FARM

**Figure 1**  
Southern North Sea  
cSAC/ SCI in Relation to  
Thanet Extension

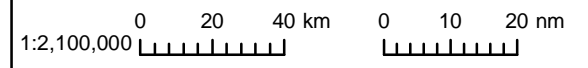
- Legend**
-  Offshore Red Line Boundary
  -  SNS cSAC/ SCI Summer and Winter
  -  Area SNS cSAC/ SCI Summer Area
  -  SNS cSAC/ SCI Winter Area



Datum: ETRS 1989  
Projection: UTM31N



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Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

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**Figure 9.5**

## 2 Final Design Plan

- 4 The final design plan for Thanet Extension is anticipated to fall within the Maximum Adverse Scenario, as defined in Section 5 of the RIAA (Application Ref 5.2/ PINS Ref APP-031). A summary of the key final design plan parameters, as relevant to the SNS SCI, are provided below in Table 1. These parameters are deemed relevant as they relate to those effects screened in for Likely Significant Effect (LSE) and assessed as resulting in no AEoI alone and in-combination.
- 5 For clarity, it should be noted that the location of Thanet Extension in relation to the SNS SCI (see Figure 1) is such that the following works are only relevant to the HRA process should they occur within the winter season (October to March inclusive). Works that occur within the summer season (April to September inclusive) are therefore not subject to the requirements of the SIP.

**Table 1: Relevant Final Design Plan Parameters**

Parameter	Final Design Plan
Pile driving (underwater noise)	<p>To occur within the array boundary only.</p> <p>Offshore construction to start 2021 at the earliest, being completed before the end of the winter season 2022-2023.</p> <p>Maximum of 36 foundations (34 turbines, 1 offshore substation, 1 met mast).</p> <p>Piling can occur at more than one foundation location in 24 hours, with the limit on the number of locations being practical only (i.e. speed of construction).</p> <p>Risk of lethal or injurious effects to be managed through a piling-MMMP, produced in agreement with Natural England and meeting requirements of European Protected Species Licensing (EPS).</p>
Geophysical survey (underwater noise)	<p>To occur within the array and offshore export cable corridor boundary only.</p> <p>Timing unknown but assessed as occurring in the winter season 2018/19-2020/21</p> <p>Up to 10 survey days per season.</p>
Disturbance from vessel traffic	Maximum number of vessels per day of 48
Cable installation, seabed preparation and drilling (underwater noise)	No limitation relevant to the SNS SCI.
Accidental pollution	Managed through the implementation of the PEMMP, produced in consultation with Natural England and provided for in the DCO as part of the standard dML requirements.

- The Applicant acknowledges that the RIAA also makes consideration of the potential need for clearance of unexploded ordnance (UXO). However, the clearance of UXO is not included under the Development Consent Order application and it is proposed to be licenced under a separate Marine Licence (ML) once further surveys have taken place to determine the likely number and nature of UXO present (if any) that will need clearance. The separate ML application for UXO clearance will include due consideration of the SNS cSAC/ SCI, include the need (if any) for a SIP at that time.



- 7 When the HRA is revisited (see below) for confirmation of no AEoI (as per the timeframe identified in paragraph 3, section 1 above), confirmation will be provided that the final design plan parameters remain valid. Should any material change(s) be apparent, then confirmation will be provided through the updated HRA process described below in Section 3 that the change(s) do not alter the conclusions of no AEoI.

### 3 Updated HRA

- 8 It is understood that Natural England expect an updated HRA to accompany the SIP process. To that end, the following programme is committed to:
- Issue of the RIAA with the application (document issued June 2018 at the time of application (Application Ref 5.2/ PINS Ref APP-031)) COMPLETE;
  - Re-issue of the RIAA at Deadline 2, to enable various updates to be included. With respect to the SNS SCI, these included further consideration of French sites, updates to the in-combination assessment and reference to the SIP (document issued February 2019 at Deadline 2) COMPLETE;
  - Issue of an Addendum to the RIAA according to the timetable stated in paragraph 3 in Section 1, to summarise changes (if any) to the assessment of AEoI for the SNS SCI only, alone and in-combination.
- 9 It is considered that adherence to that timetable, including delivery of the SIP for agreement with the MMO, will ensure discharge of Schedule 11, Condition 12(1)(k) and Schedule 12, Condition 10(1)(l) of the DCO.

## 4 Mitigation Measures

- 10 The RIAA (Application Ref 5.2/ PINS Ref APP-031) includes existing mitigation commitments within Table 6.1 (of the RIAA).
- 11 Further detail on marine mammal specific mitigation is provided within the draft piling-Marine Mammal Mitigation Protocol (Application Ref 8.11/ PINS Ref APP-146), prepared and agreed in consultation with Natural England. It is considered that these existing commitments provide sufficient mitigation to address the risk of mortality or injury in harbour porpoise and (unless the project parameters defined in Table 1 change, with this to be confirmed and addressed if necessary through the updated HRA process outlined in Section 3 above) no further mitigation would be required to address that risk. Consideration of further mitigation made here is therefore limited to disturbance of harbour porpoise only, as addressed through the threshold approach – specifically that of 20% per 24 hours and 10% per season (as defined in Section 9.6 of the RIAA, Application Ref 5.2/ PINS Ref APP-031).
- 12 The RIAA concluded no AEoI for the SNS SCI, alone and in-combination. That conclusion is dependent on the project specific parameters outlined in Table 1 above but also on project parameters for those projects considered in-combination.
- 13 The marine mammal in-combination assessment presented within Section 12.3 of the RIAA is based on a standard tiering approach, which takes account of the project certainty (specifically how close a project is to construction and the remaining stages to be completed). The assessment identified two key risks, which can be summarised as follows:
- Winter season 2018/2019 – should relevant (noisy) work occur at Thanet Extension on the same day as relevant (noisy) works at East Anglia ONE. Limited to potential need for geophysical survey at Thanet Extension before the end of March 2019; and
  - Winter season 2019/2020 onwards – should East Anglia THREE progress from Tier 2 into Tier 1, which requires the project to achieve CfD, FID and start construction within the timeframe specified in Table 1 above for Thanet Extension.
- 14 Thanet Extension can confirm that no geophysical works will be required before the end of March 2019; therefore, there will be no in-combination effect with East Anglia ONE.

- 15 No other risks were identified with respect to the SNS SCI within the RIAA, however the commitment made in Section 3 above as regards a RIAA Addendum to be issued in the timeframe specified, provides additional certainty that should further unforeseen changes occur to plans and projects assessed in-combination, such changes can be addressed to confirm that no adverse effects on integrity will arise.
- 16 Table 2 of the JNCCs Advice on Activities for the SNS SCI<sup>1</sup> summarises the relevant mitigation with respect to disturbance and displacement effects in relation to piling. It is clear that the first step relates to the following primary mitigation measures:
- ‘by varying the schedule of piling, particularly if several developments are constructing at the same time and pile driving footprints do not overlap (i.e maximising area from which porpoise are excluded). Limited spatio-temporal restrictions may be needed’*
- 17 This is followed by secondary mitigation measures:
- ‘Other examples of mitigation include the use of sound dampers, methods that create a barrier to sound transfer (e.g. bubble curtains) and, more effectively, the use of alternative foundation types (e.g. gravity foundations, suction cups, floating turbines, drilling). Scheduling of activities may minimise cumulative exclusion from areas’*
- 18 For Thanet Extension, the focus of proposed mitigation is on the primary measures – i.e. management of activities – with such measures considered sufficient to ensure the thresholds for the cSAC/SCI (paragraph 10 this document) will not be exceeded.
- 19 For the risks identified above, Thanet Extension commits to the following:
- For geophysical works until end of March 2019 – should such works be required, clarification would be provided, drawing on existing Marine Licenses granted for East Anglia ONE, that thresholds would not be exceeded in-combination. This would necessitate confirmation of planned survey dates at East Anglia ONE. Unless it can be confirmed that works at Thanet Extension could proceed within the thresholds, then works at Thanet Extension will not occur in that window;
  - A watching brief will be maintained on East Anglia THREE, with progress and status reviewed, in line with the timeframe identified in paragraph 3, Section 1. Should an in-combination risk be identified at that point, then the following approach will be applied:

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<sup>1</sup> <http://jncc.defra.gov.uk/pdf/SouthernNorthSeaConservationObjectivesAndAdviceOnActivities.pdf>

- Liaison with MMO, through compliance with the need to provide a construction programme, to determine if the in-combination effect could be managed so as to remain within thresholds (e.g. through foundation location planning, rate of construction etc); AND/OR
- Seasonal restriction for Thanet Extension (effectively committing to limiting relevant (noisy) works that occur within the winter season(s), enabling works in-combination to be planned in a manner that avoids exceedance of the thresholds).

- 20 It is considered that the above mitigation measures provide further certainty that the risks identified within the RIAA (as summarised under paragraph 13 above) can continue to be addressed through management of activities, thus continuing to avoid the risk of an AEoI. The approach is particularly relevant for Thanet Extension given its location relative to the SNS SCI – which effectively removes any risk of effect from works occurring in the summer season.
- 21 It is therefore considered that there is no requirement to consider the need for additional mitigation measures at Thanet Extension, such as the secondary mitigation measures identified above.
- 22 Thanet Extension proposes the following process for review of the RIAA and drafting of the SIP and the determination of whether any mitigation measures are required and which would need to be applied (if any):

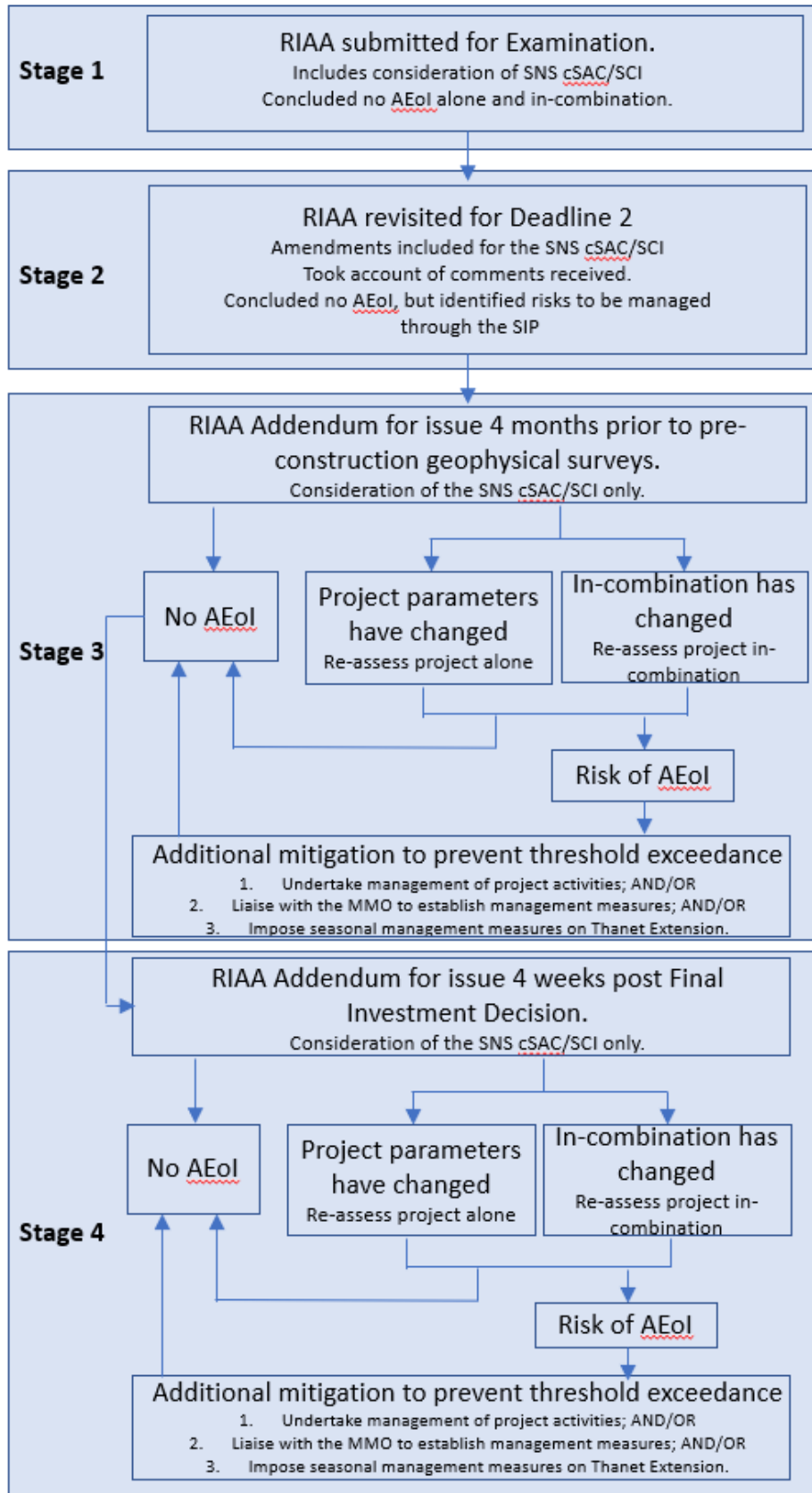


Figure 2: Proposed flow process for review of the RIAA and SIP

## 5 Review of Consents

- 24 Table 2 of the BEIS Review of Consents (RoC) identified no need to include Thanet Extension in the process, with the project listed as Tier 4. Table 75 of the RoC went on to exclude Thanet Extension from the in-combination assessment of underwater noise and physical impact on the seabed. No underwater noise modelling was undertaken for Thanet Extension. No further consideration of the RoC is therefore required here.

## 6 Additional Licencing Requirements

- 25 It is acknowledged that additional licenses will be required for the relevant (noisy) works at Thanet Extension. As highlighted within the RIAA, such works are expected to include:
- EPS License. It is expected that an injury licence will be required for UXO clearance (if required), although the risk of disturbance is considered to be very low. An EPS licence for disturbance during piling is also anticipated to be required; and
  - Marine License. Should it be confirmed that UXO clearance is required, a Marine Licence will be sought.
- 26 The above licenses will be drafted in consultation with Natural England and the Marine Management Organisation.