Rampion 2 Wind Farm

Category 8: Examination Documents

SLVIA Maximum Design Scenario and Visual Design Principles Clarification Note

Date: February 2024
Revision A

Application Reference: 8.35
Pursuant to: The Infrastructure Planning (Examination Procedure) Rules 2010, Rule 8(1)(c)(i)
Ecodoc number: 005104585-01

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Document revisions

Revision	Date	Status/reason for issue	Author	Checked by	Approved by
A	28/02/2024	Deadline 1	GoBe	RED	RED

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1. Introduction and Outline of Issues Raised

1.1.1 This document provides further clarification in respect of the design of the Rampion 2 Offshore Array Area, focusing on the seascape, landscape and visual design principles that have contributed to its design and the maximum design scenario (MDS) for the seascape, landscape and visual impact assessment (SLVIA).

1.1.2 Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the Environmental Statement (ES) **[APP-056]** sets out the MDS for the SLVIA (Table 15-25) and how Rampion 2 includes embedded environmental measures in respect of seascape, landscape and visual receptors. SLVIA topic specific design principles are described, which set out how the design of Rampion 2 has been shaped by potential seascape, landscape and visual effects, with the aim of reducing the effects of the Proposed Development particularly on the South Downs National Park (SDNP).

1.1.3 The design evolution of the Rampion 2 offshore array is also described in **Chapter 3: Alternatives, Volume 2** of the ES (paragraphs 3.2.1 – 3.2.44**) [APP-044]**.

1.1.4 The spatial extent of the Offshore Array Area of the proposed DCO Order Limits has been reduced substantially in response to feedback from stakeholders. The reduction in spatial extent of the Rampion 2 offshore array between Scoping, Preliminary Environmental Information Report (PEIR) and ES is shown in **Figure 15.2, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES **[APP-088]** and in **Figure 3.2** and **Figure 3.3, Chapter 3: Alternatives – Figures, Volume 3** of the ES **[APP-075]** and the MDS layout for the SLVIA is shown in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES **[APP-088]**.

1.1.5 Natural England, in its relevant representation **[RR-265]**, has recognised that *"design changes introduced following the Section 42 consultation have reduced the adverse effects of the scheme on the portion of the South Downs National Park (SDNP) contained within the Sussex Heritage Coast (SHC)".* This is in line with latest NPS EN-1 (DESNZ, 2023a) policy which aims to *"minimise adverse effects on designated landscapes",* however Natural England does not agree that the Rampion 2 Design Principles fulfil the requirement for 'good design' as set out in NPS EN-1 (DECC, 2011a).

1.1.6 Natural England has requested further detail in respect of the MDS and the design principles that have influenced the design of Rampion 2, the balancing exercise undertaken and how the design limits effects on the SDNP and its special qualities. This is described in Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** and the description of offshore design alternatives/evolution provided in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**, however further detail on this matter is provided in this clarification note.

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1.1.7 Natural England has also requested further evidence in respect of the justification of the Rampion 2 MDS, in order to allow them to advise on whether the current proposed design is the *"least worst possible"*. The MDS parameters assumed in the SLVIA of Rampion 2 are described in Table 15-25 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**], however further justification of the MDS is provided in the Applicant's Response to Natural England's relevant representation [**RR-265**] and expanded in this clarification note.

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2. Matters Raised by Stakeholders

2.1 Natural England

Overview

2.1.1 In its Relevant Representation **[RR-265]** (para 5.31) Natural England *"considers that the two key policy tests of concern to the Rampion 2 Examination are whether the Rampion 2 Design Principles fulfil the requirement for good design as set out in the Overarching National Policy Statement for Energy (EN-1); and (with respect to designated landscapes) the acceptability of further harm to the statutory purposes of the SDNP and special character of the SHC, and harm to the statutory purposes of the CHAONB and IoWAONB. Consequently, we do not agree that the Rampion 2 Design Principles fulfil the requirement for good design as set out in the Overarching NPS for Energy (EN-1)".*

2.1.2 Natural England (para 1.3) *"do recognise the iterative changes made to the DCO order limits between the PEIR and ES stages (as shown in Figure 15.2), as well as the use of design principles to inform these changes"* and accept *that "the design changes introduced following the Section 42 consultation have reduced the adverse effects of the scheme on the portion of the SDNP contained within the SHC"*, yet Natural England maintains that Rampion 2 will significantly affect the statutory purposes of the SDNP and other designated landscapes.

2.1.3 Three reasons for this are stated by Natural England:

a. *"The WTGs of the Rampion 2 OWF maximum design scenario are too big and located too close to the coastline of the SHC portion of the SDNP. Their sheer size and the lateral spread, combined with the marked contrast in height with the existing Rampion 1 WTG will be visually incoherent, clutter-up the seascape setting of the SDNP and dramatically degrade views out to sea, particularly from Beachy Head to Birling Gap. Natural England therefore advises that WTG should be excluded from the Rampion Zone 6 western array area, thereby adhering to the Design Principles as secured in the Rampion 1 DCO/DML";*

b. *"The expansion of the influence of turbines westwards through development within the Rampion extension area will increase the industrialisation of the seascape setting of the SNDP, particularly for inland locations located to the west of Wilmington Hill. Their presence in the seascape setting of the SDNP will further degrade the quality of views out to sea which are already adversely influenced by the turbines of the Rampion 1 array and will lead to further loss of the natural beauty for which this landscape was designated"; and*

c. *"The westward expansion will also result in significant effects on the seascape setting of the CHAONB (although this will be limited) and more extensively the eastern portions of the IoWAONB at Bembridge Down and St. Boniface Down, resulting in further loss of natural beauty for these designations as well".*

Requests for further evidence

2.1.4 Natural England (I2 2.1) **[RR-265]** requests further evidence from the Applicant as follows in respect of the design of Rampion 2:

a. *"Detail on how the Rampion 1 Design Principles have influenced the Rampion 2 maximum design scenario.*

b. *The Applicant's justification for why the Rampion 1 mitigation measures do not directly apply to the Rampion 2 project.*

h. *A demonstration of how the design of Rampion 2 limits as far as possible the horizontal field of view (HFoV) of WTG from the SDNP and the SHC.*

i. *A clear and direct assessment of the impact that the Rampion 2 Design Principles have on the special qualities of the SDNP".*

2.1.5 Further clarification on these matters is provided in **Section 6.1** of this document.

2.1.6 Natural England (I2 2.1) **[RR-265]** also requests further evidence from the Applicant as follows in respect of the MDS for Rampion 2:

c. *"Evidence to demonstrate why constructing more WTG in the Zone 6 (Eastern Array Area) than described within the indicative layout would not present a 'greater worse-case effect'.*

d. *Evidence to show that a greater densification of WTG in either the Zone 6 Area or Extension Area will not materially increase the effect of the Proposed Development on coastal views from protected landscapes.*

e. *An explanation of the balancing exercise that was undertaken between the spatial extent of the Rampion 2 array and the apparent height of Rampion 2 WTGs".*

2.1.7 Further clarification on these matters is provided in **Section 6.2** of this document.

South Downs National Park Authority

2.1.8 In its Relevant Representation **[RR-265]** (para 2.4.2) the South Downs National Park Authority (SDNPA) noted that *"The offshore array, by virtue of their proximity to the coastline, size, number and spread is considered to have significant adverse effects on the character and setting of the SDNP. In particular, and as advised in Review and Update of Seascape and Visual Buffer Study for Offshore Windfarms (March 2020) commissioned by the Department for Business, Energy and Industrial Strategy (BEIS as it was then) the combination of National Park and Heritage Coast is particularly sensitive and needs to be given great weight in the planning balance".*

2.1.9 The sensitivity of the Sussex Heritage Coast area of the SDNP is recognised in the assessments in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] and due regard is being had to purposes of the SDNP. Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] sets out SLVIA topic specific design principles that describe how the design of Rampion 2 has been

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shaped by potential effects on the SDNP with the aim of reducing the effects of the Rampion 2 Offshore Array Area on the South Downs National Park (SDNP).

2.1.10 Further clarification in respect of how the SLVIA design principles have contributed to the design of Rampion 2 are set out in **Section 6** of this document.

3. Relevant Policy Tests

3.1 National Planning Policy (NPS)

3.1.1 The relevant policy tests are set out in the Rampion 2 application documents and in particular in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** Table 15-2 and the **Planning Statement** **[APP-036**

3.1.2 As the Rampion 2 DCO Application was accepted for determination in September 2023 **[PD-001]** this means that it is the 2011 suite of NPSs that will have effect rather than the suite of revised NPSs. In this case, therefore, NPS EN-1 (Department of Energy and Climate Change (DECC), 2011a), NPS EN-3 (DECC, 2011b) and NPS EN-5 (DECC, 2011c) have effect and are the NPS against which the application will be assessed.

3.1.3 However, the Applicant accepts that the revised NPSs designated in January 2024 ((NPS EN-1 (DESNZ, 2023a), NPS EN-3 (DESNZ, 2023b) and NPS EN-5 (DESNZ, 2023c)) are important and relevant considerations. At the time of submission, the 2023 NPSs were in draft. To assist the Examination, the Applicant has submitted at Deadline 1, a statement outlining the significant differences between the March 2023 draft NPSs and the November 2023 NPSs, and the implications that the 2023 NPSs (as designated by Parliament) may have for the Proposed Development. Furthermore, accordance trackers, showing compliance with the 2011 NPS and 2023 NPS, which were designated in January 2024, will be submitted at Deadline 2.

3.1.4 The key policy considerations with respect to National Designations, are, in summary set out as follows (emphasis added).

NPS EN-1 Over-arching NPS for Energy (July 2011) (DECC, 2011a)

- NPS EN-1 (July 2011) (DECC, 2011a) at paragraph 5.9.12 *"The **duty to have regard to the purposes of nationally designated areas** also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. **The aim should be to avoid compromising the purposes of designation** and **such projects should be designed sensitively** given the various siting, operational, and other relevant constraints"*.… and paragraph 5.9.13 advises *"The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent*."
- Paragraph 5.9.17: *"The IPC [now the Planning Inspectorate and the Secretary of State] should **consider whether the project has been designed carefully**, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, **to minimise harm to the landscape**, including by reasonable mitigation."*

NPS EN-1 Over-arching NPS for Energy (Designated January 2024) (DESNZ, 2023a)

- NPS EN-1 (DESNZ, 2023a) at Paragraph 5.10.8 advises that *"**The duty to seek to further the purposes** of nationally designated landscapes also applies when considering **applications for projects outside the boundaries of these areas which may have impacts within them**. In these locations, **projects should be designed sensitively** given the various siting, operational, and other relevant constraints. The Secretary of State should be satisfied that measures which seek to further the purposes of the designation are sufficient, appropriate and proportionate to the type and scale of the development".*
- Paragraph 5.10.34 of NPS EN-1 (DESNZ, 2023a) goes on to advise that *"The **aim should be to avoid harming the purposes of designation or to minimise adverse effects on designated landscapes**, and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for the Secretary of State to refuse consent"*.
- NPS EN-1 (DESNZ, 2023a) Section 4.7 provides criteria for good design for energy infrastructure, advising (paragraph 4.7.1) that "*high quality and inclusive design goes far beyond aesthetic considerations. The functionality of an object – be it a building or other type of infrastructure – including fitness for purpose and sustainability, is equally important"* as to *"how it relates to the landscape it sits within".* It advises that *"Applying good design to energy projects should produce sustainable infrastructure sensitive to place, including…. an appearance that demonstrates good aesthetic as far as possible"* (4.7.2) while acknowledging that *"the nature of energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area*". Paragraph 4.7.5 advises that *"Design principles should be established from the outset of the project to guide the development from conception to operation"* and that *"there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation"* (4.7.6). Paragraph 4.7.11 states that *"The Secretary of State should be satisfied that the applicant has considered both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located, any potential amenity benefits, and visual impacts on the landscape or seascape) as far as possible".*

NPS EN-3 National Policy Statement for Renewable Energy Infrastructure (July 2011) (DECC, 2011b)

- NPS EN-3 (DESNZ, 2023b) states in Paragraph 2.4.2: *"Proposals for renewable energy infrastructure should **demonstrate good design in respect of landscape and visual amenity**, and in the design of the project to mitigate impacts such as noise and effects on ecology."*

NPS EN-3 National Policy Statement for Renewable Energy Infrastructure (Designated January 2024) (DESNZ, 2023b)

- NPS EN-3 (DESNZ, 2023b) acknowledges in paragraph 2.8.351 that, *"Where a proposed offshore wind farm is within sight of the coast, there may be adverse effects. The Secretary of State should not refuse to grant consent for a development solely on the ground of an adverse effect on the seascape or visual amenity unless:*
  - *they consider that an alternative layout within the identified site could be reasonably proposed which would minimise any harm, taking into account other constraints that the applicant has faced such as ecological effects, while maintaining safety or economic viability of the application; or*
  - *they take account of the sensitivity of the receptor(s) and impacts on the statutory purposes of designated landscapes as set out in Section 5.10 of EN-1; and decide that the harmful effects to outweigh the benefits of the proposed scheme. See also Critical National Priority (Section 3 of EN3)".*
- Section 3 of NPS EN-3 (DESNZ, 2023b) advises that, *"A policy set out at Section 4.2 of EN-1 which applies a policy presumption that, subject to any legal requirements (including under section 104 of the Planning Act 2008), the urgent need for CNP Infrastructure to achieving our energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by application of the mitigation hierarchy".*

3.1.5 The following sections of this document provide further evidence requested from Natural England in respect of the design of Rampion 2 and the MDS for the SLVIA, including how these relate to the policy tests in the relevant NPSs.

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4. Rampion 1 Design

4.1 Background

4.1.1 Natural England have requested further detail on how the Rampion 1 Design Principles have influenced the design of Rampion 2. It is therefore relevant to consider the background and design principles for Rampion 1.

4.1.2 As described in **Chapter 3: Alternatives, Volume 2** of the ES (paragraphs 3.2.1 – 3.2.4) **[APP-044**], Rampion Offshore Wind Farm, hereafter referred to as Rampion 1, was developed following The Crown Estate's (TCE) Round 3 offshore wind leasing programme launched in 2008. The Round 3 area within which Rampion 1 was brought forward (Zone 6, in the English Channel) was one of nine Zones identified following a process of national, strategic level planning. As part of the wider national strategic initiative, a Strategic Environmental Assessment (SEA) of suitable areas for offshore wind development was conducted by the then Department of Energy and Climate Change (DECC)[1], which completed in 2009. Development rights for the zones were not awarded until the completion of the SEA.

4.1.3 Rampion 1 was designed with a focus on achieving the most efficient and cost-effective development at that time. The completed wind farm consists of 116 x 140m blade tip height Wind Turbine Generators (WTGs) (112m rotor diameter) and occupies approximately 72km^2 within the total 139km^2 consented area.

4.1.4 Seascape, landscape and visual impacts were a principal issue during the Examination of Rampion 1, as described in the Examining Authority's Report of Findings and Conclusions (PINS, 2014) due to *"the location of the array 13km off the Sussex coast and therefore its exposure to and visibility from settlements along the coast; the South Downs National Park (SDNP) and the Sussex Heritage Coast"*.

4.1.5 Mitigation of seascape, landscape and visual impacts on the Sussex Heritage Coast of the SDNP, through the built extent and layout of the array, was a key issue during the Examination. A Structures Exclusion Zone (SEZ) was applied to reduce the array area of Rampion 1 (see black hatched area in **Plate 1**), preventing structures in the eastern part of the site, to increase the distance of Rampion 1 from the Heritage Coast of the SDNP.

[1] DECC later became the Department for Business, Energy and Industrial Strategy and now DESNZ.

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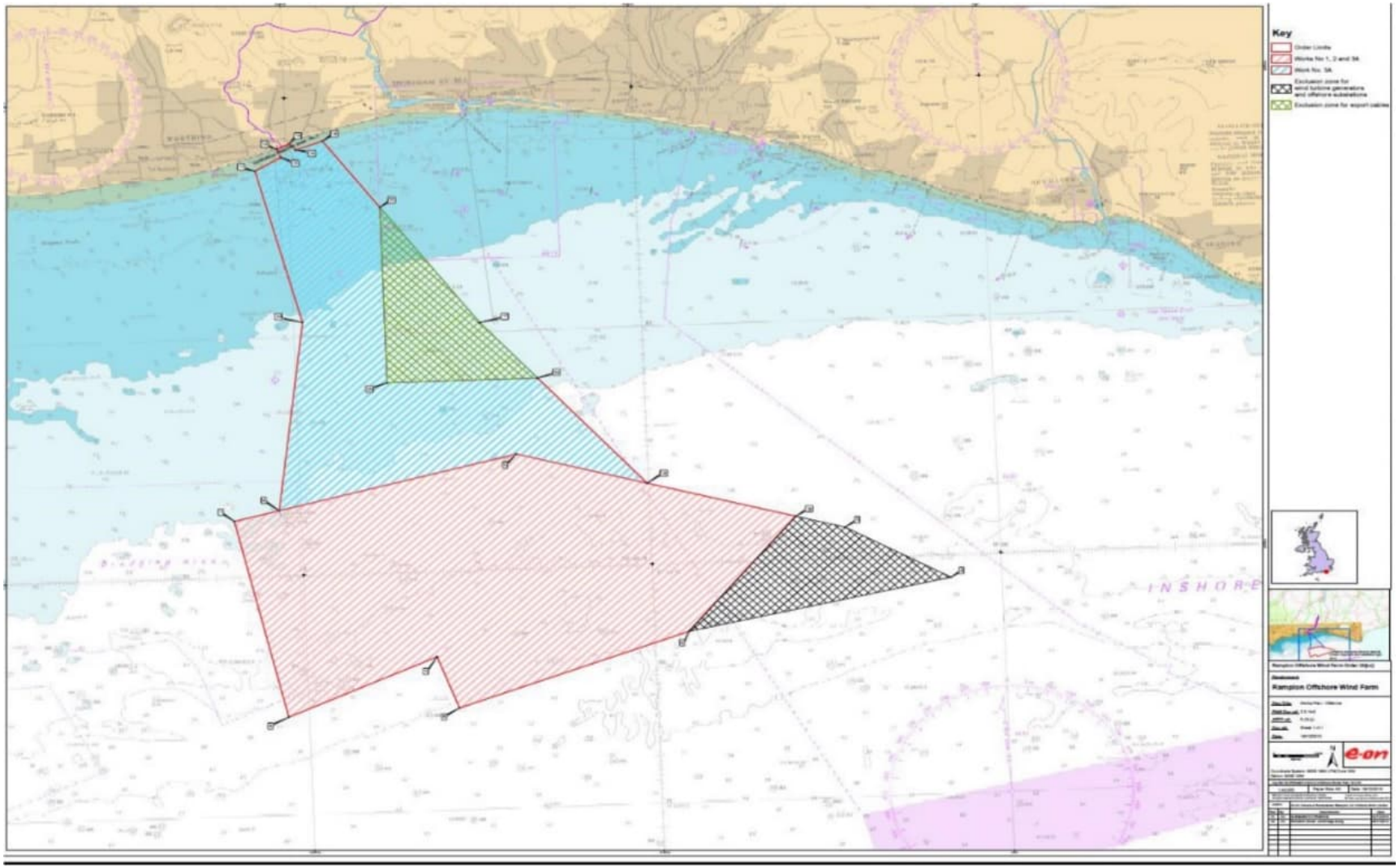
Plate 1 Rampion 1 Wind Farm Structures Exclusion Zone



4.1.6 The key findings of the Examination panel, as set out in the Examining Authority's Report of findings and conclusions and recommendation to the Secretary of State (PINS, 2014) were as follows:

- Acceptance that the SEZ proposed would have a positive effect on mitigating the impact on the SDNP and Sussex Heritage Coast by increasing its distance away from these sensitive receptors and reducing the horizontal spread, decreasing the extent to which the wind farm would be visible in views out to sea.
- Recommendation that the introduction of design parameters and design principles would add to the mitigation package proposed, and a requirement for the applicant to demonstrate that it has regard to them, would go some way to mitigating the effects on the SDNP of long-distance views, accepting that those effects would not be eliminated (or offset) in their entirety.
- Acknowledgement that by taking account of the range of mitigation measures set out, that although the visual effects of the wind farm upon the SDNP and Sussex Heritage Coast cannot be eliminated, the level of benefits to be afforded from Rampion 1 in terms of the need for energy infrastructure as set out in the NPS EN-1 (DECC, 2011a) outweigh the level of harm to the objectives of the designation of the SDNP, including consideration of its outstanding long distance views.

4.1.7 The special qualities of the SDNP were considered by the Examining Authority during the Rampion Offshore Wind Farm Examination, as noted in Examining Authority's Report of findings and conclusions and recommendation to the Secretary of State (PINS, 2014):

- Para 4.382 … "*The panel recognises that no measures are available that would completely mitigate the significant adverse visual effects of the proposed array on the National Park or Heritage Coast. As such the Panel recognises that there would be some change to the special qualities of the National Park, in particular 'diverse, inspirational landscapes and breathtaking views' would be changed in parts of the National Park*".
- Para 4.383… *"The Panel is of the view that the structures exclusion zone would provide some level of mitigation of these effects, and that at the eastern end of the proposed array, the wind farm would be perceived as being remote from the Heritage Coast and National Park".*

4.2 Rampion 1 Design Plan

4.2.1 Within the Rampion 1 Development Consent Order (DCO), a condition was imposed within Schedule 13, the deemed marine licence, to the Rampion Offshore Wind Farm Order 2014 to secure design principles for the project to address landscape and visual impacts. The design plan approved pursuant to this condition included four design principles: addressing seascape, landscape and visual mitigation, which were prepared having regard to the need to:

i. limit as far as possible the horizontal degree of view of wind turbine generators from the South Downs National Park and the Sussex Heritage Coast;

ii. increase as far as possible the distance of the wind turbine generators from the South Downs National Park and the Sussex Heritage Coast;

iii. locate the largest turbines, in any hybrid scheme, to the south-western portion of the Order limits; and

iv. provide clear sight lines through the wind turbine layout in order that the regular geometric pattern of the array is apparent in views from the South Downs National Park and Sussex Heritage Coast.

4.2.2 A final optimised site layout for Rampion 1 was developed, following feedback from consultees, taking account of all technical and environmental constraints. The SEZ was applied, and the design principles set out in condition 11(3)(a) were incorporated in the final wind farm layout, which provided further mitigation of seascape, landscape and visual effects.

4.2.3 The Rampion 1 design principles set out in condition 11(3)(a) were reflected in the Rampion 1 WTG layout (**Plate 2**) as follows:

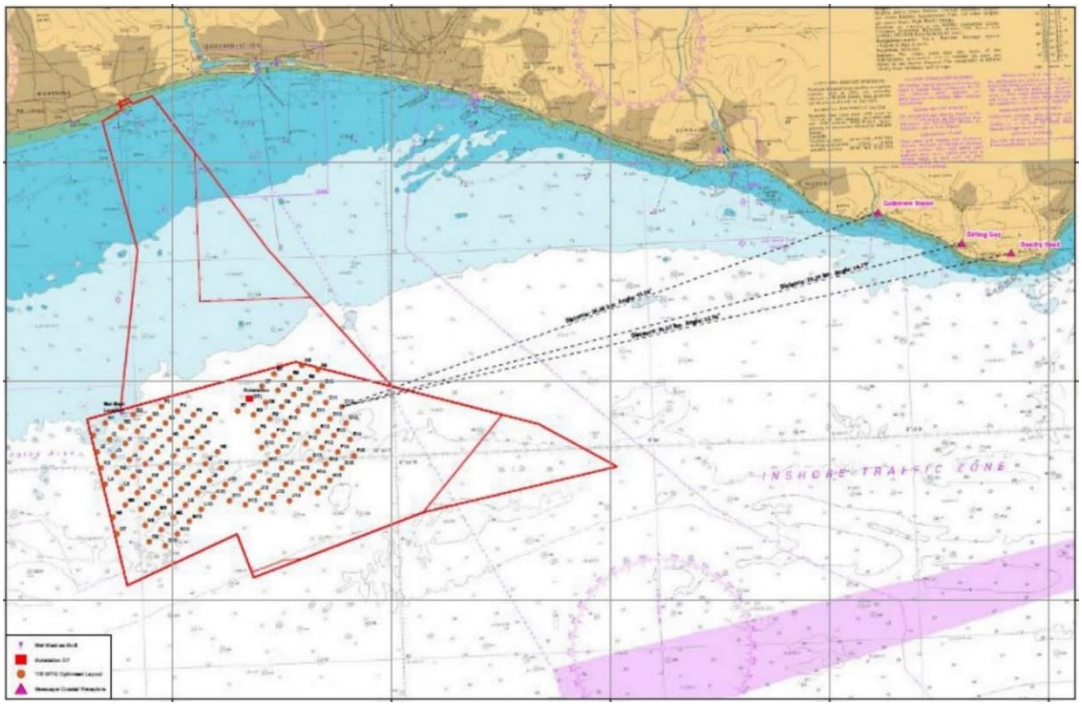
i. Minimising the horizontal degree of view: WTGs were located within a smaller spatial area to the north and west, occupying 72 km^2 within the total 139 km^2 consented area (**Plate 2**) in order to reduce the horizontal field of view of the WTGs from key viewpoints within the SDNP/Sussex Heritage Coast (from approximately 16-20° to 10-11°).

ii. Maximising the distance from the SDNP and Sussex Heritage Coast: WTGs were concentrated within a smaller spatial area in the portion of the Rampion 1 site furthest to the west (**Plate 2**) in order to increase the separation distance of the WTGs from the Sussex Heritage Coast of the SDNP (by approximately 7.5 – 10 km further away, up to distances of 26 – 31 km from key viewpoints).

iii. In any hybrid scheme, locate largest turbines to the south-west: the hybrid WTG scheme option was discounted, in favour of a single WTG type Vestas 3.45 MW across the Rampion 1 array at 140 m tip height (compared to a maximum 210 m blade tip height assessed in the ES).

iv. Provide clear sight lines through the wind turbine layout – the Rampion 1 array is laid out orthogonally with straight lines along several axes, which provides clear lines of sight through the wind farm in certain viewpoints from the SDNP. The sight lines vary along the coastline depending on the location of the visual receptor and it is notable that the main south-west to north-east axis of the WTG rows does not align to the Sussex Heritage Coast and clear sight lines are not evident in views of the Rampion 1 WTGs from the Sussex Heritage Coast.

Plate 2 Rampion 1 Wind Farm Layout (figure extract from Rampion 1 Design Plan)



4.2.4 The evolution of Rampion 1 from the Round 3 (Zone 6) area to the operational wind farm site is illustrated clearly on the Rampion Offshore Wind Farm website[2] and **Plate 3** replicated below, which shows the reduction in extent from the Zone 6 (in yellow); the proposed wind farm area upon which Rampion 1 consulted (orange); the wind farm area that was submitted in the development consent application (red); the wind farm boundary awarded consent (purple) (which excluded the SEZ); and the Rampion 1 wind farm layout that is operational.

2 [redacted]

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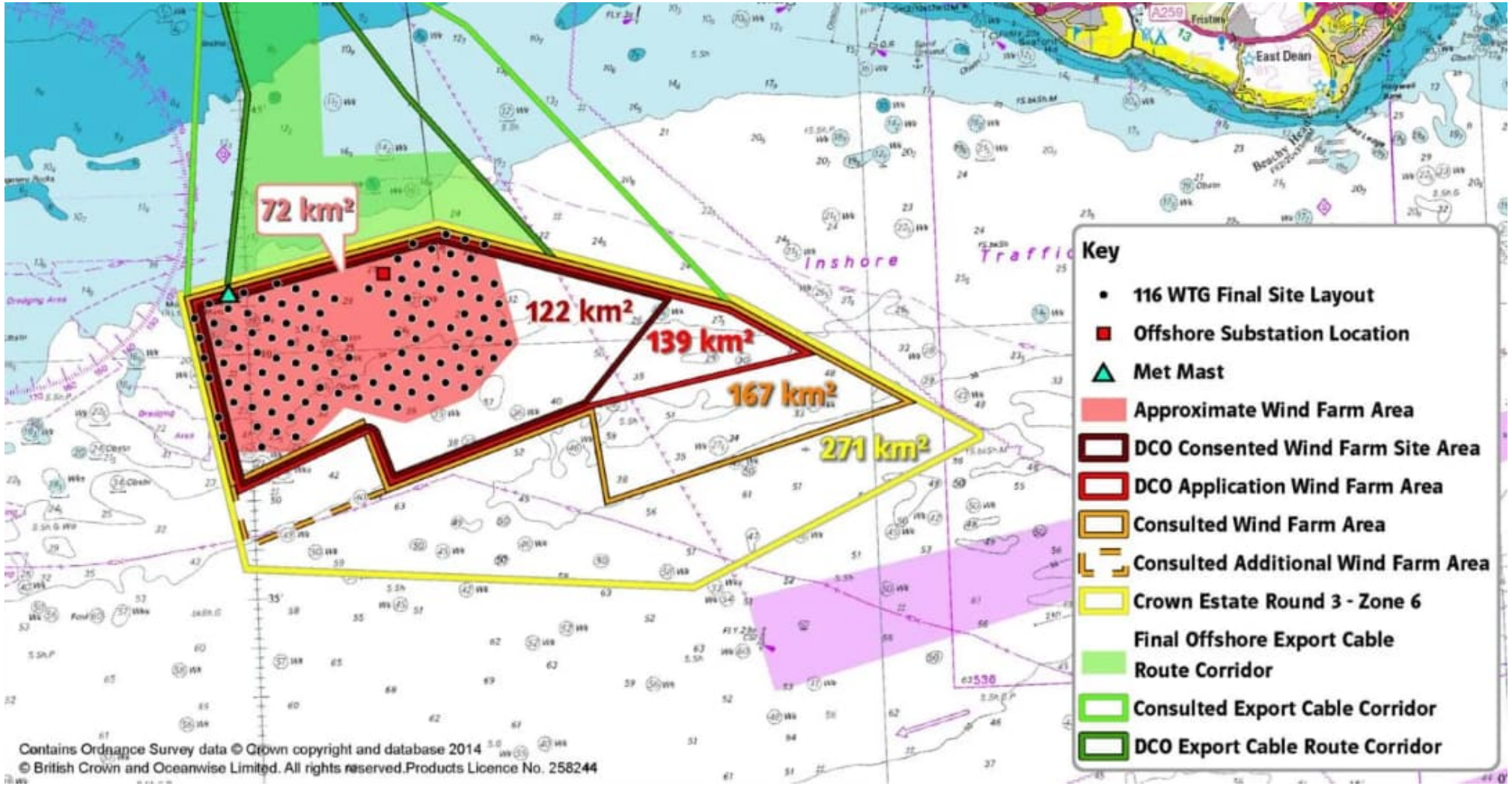
Plate 3: Rampion 1 Wind Farm – Evolution from Round 3 Zone 6 to Operational Wind Farm



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4.2.5 The regard given to the purpose of the SDNP and reduction of harm to the purposes of designation and its special qualities (particularly its 'breathtaking views') is clear through the reduction in spatial extent of Rampion 1.

4.2.6 The Applicant considers that Rampion 2 has given similar regard and intent to minimise adverse effects on the Heritage Coast of the SDNP through the design principles that have shaped the spatial extent of the Rampion 2 array area, particularly to the east within the Zone 6 area, with the Rampion 2 array area located entirely to the south and west of Rampion 1 (and not to its east). These aspects of the Rampion 2 project design are explored further as follows in **Section 5**.

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5. Rampion 2 Design

5.1 Site Selection and Design Evolution

5.1.1 The site selection and design evolution of the Rampion 2 offshore array is described in **Chapter 3: Alternatives, Volume 2** of the ES (**paragraphs 3.2.1 – 3.2.44**) [**APP-044**]. This section of the ES sets out the site selection and design evolution chronologically through the following stages:

- site selection prior to Scoping;
- design evolution refinements made to define the Scoping Boundary;
- design refinements made between Scoping and the first Statutory Consultation exercise (between Scoping and PEIR); and
- design refinements made since the first Statutory Consultation exercise (between PEIR and ES).

5.1.2 Figures illustrating the design evolution and reduction in spatial extent of the Rampion 2 offshore array between site selection, Scoping, PEIR and ES are shown in **Figure 3.1a, Figure 3.2** and **Figure 3.3, Chapter 3: Alternatives – Figures, Volume 3** of the ES [**APP-075**] and **Figure 15.2, Chapter 15, Volume 3** of the ES [**APP-088**] with the latter two figures replicated overleaf.

Figure 15.2 Wind Farm Array Area Design Evolution of Chapter 15, Volume 3 of the ES [APP-088]

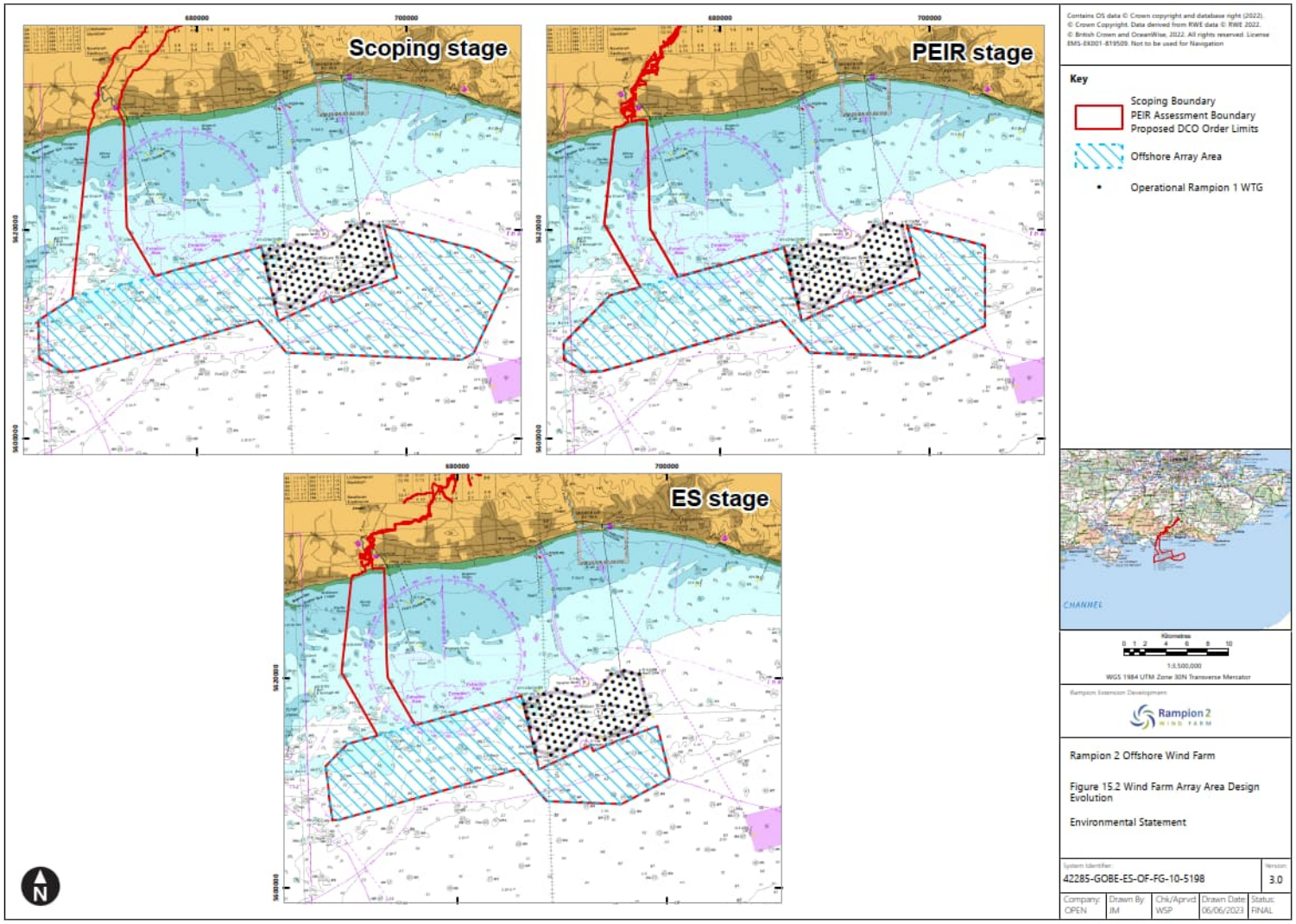
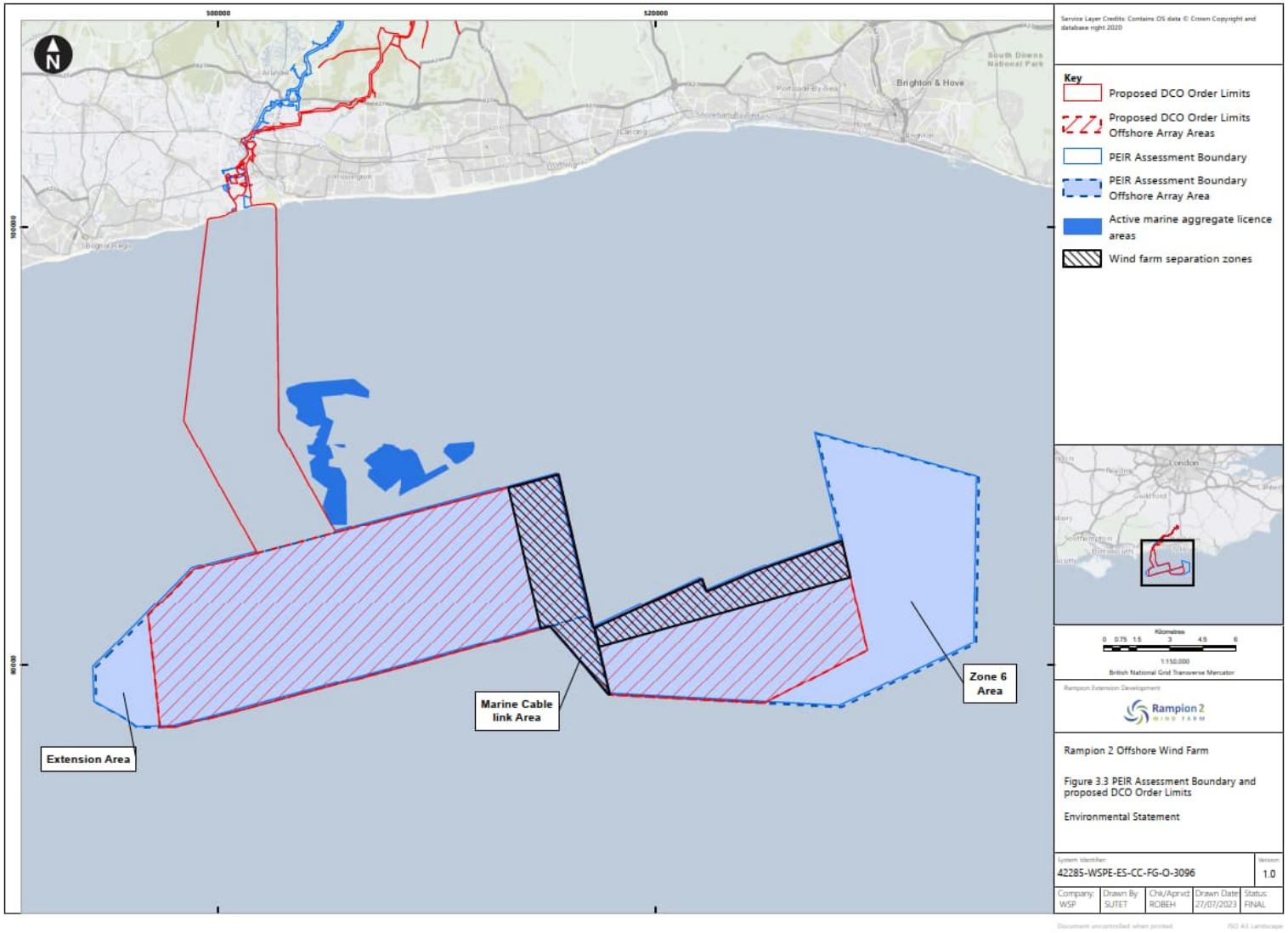


Figure 3.3 PEIR Assessment Boundary and Proposed DCO Order Limits of Chapter 3: Alternatives, Volume 3 of the ES [APP-075]



Offshore refinement between Scoping and the first Statutory Consultation exercise

5.1.3 The assessment of environmental parameters, constraints, technical engineering parameters and scale of generation that informed the evolution of the spatial extent of the Rampion 2 Offshore Array Area is described in **ES Chapter 3: Alternatives, Volume 2** of the ES (**paragraphs 3.2.1 – 3.2.44**) [**APP-044**], together with the main design workshops and stakeholder consultations.

5.1.4 As a result of these assessments and key concerns of stakeholders, the Zone 6 area (to the east) and the Extension Area to the west were reduced for the PEIR Assessment Boundary (**Figure 3.2, Chapter 3: Alternatives – Figures, Volume 3** of the ES) [**APP-075**].

5.1.5 Detailed engagement on seascape, landscape and visual impacts was undertaken through the **Evidence Plan (part 1 of 11)** **[APP-243]**, with a series of amendments (reductions) made through the Rampion 2 design evolution process, including reducing the Zone 6 area in the east, to reduce the impact on the Sussex Heritage Coast.

5.1.6 The Round 3 Zone 6 area is shown on **Figure 3.1a** and **Figure 3.1b, Chapter 3: Alternatives – Figures, Volume 3** of the ES [**APP-075**], and the reduced area included in the PEIR Assessment Boundary is illustrated on **Figure 3.2 Chapter 3: Alternatives – Figures, Volume 3** of the ES [**APP-075**] and in the SLVIA chapter in **Figure 15.2, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**].

Offshore refinement since the first Statutory Consultation exercise

5.1.7 Further design evolution occurred since the first Statutory Consultation exercise in July 2021 (reopened in February 2022), which has resulted in the reduction of the PEIR Assessment Boundary to the proposed DCO Order Limits (**Figure 3.3, Chapter 3: Alternatives – Figures, Volume 3** of the ES) [**APP-075**]).

5.1.8 Reductions in the Rampion 2 Offshore Array Area have been made to address Statutory Consultation from stakeholders and comments expressed during Expert Technical Groups (ETG) consultation meetings. These highlighted concerns relating to shipping and navigation, and SLVIA that could be addressed through refinement of the spatial extent of the Rampion 2 Offshore Array Area.

5.1.9 Regarding seascape and visual impact, the key Statutory Consultation feedback related to the scale of the Proposed Development located within both the Extension Area and Zone 6 Area, to the east and west of the existing Rampion 1 wind farm (as shown in Figure 3.3 replicated above), and its resulting adverse effects on offshore views from the coastline and the seascape setting of nationally designated landscapes including the South Downs National Park (SDNP) and the Sussex Heritage Coast.

5.1.10 SLVIA topic specific design principles were proposed by Natural England in its Statutory Consultation feedback (received in 2021) with the aim of reducing the magnitude of effects of the Proposed Development on the SDNP and its coastline within the Sussex Heritage Coast. Natural England recommended that the following design principles are adopted by Rampion 2:

- *"There should be no turbines constructed within [the remaining parts of] Zone 6.*
- *Reducing the combined horizontal extent (lateral spread) of turbines associated with a visually combined R1 and R2 scheme, or –*
- *There should be perceptible separation distance (from all land-based viewpoints) between the existing R1 OWF and the new R2 array by concentrating development in the western end of the Rampion Extension area.*
- *The distance should be sufficient that a clear distinction can be made between the two arrays, in order that they are perceived as separate objects in the seascape when viewed from the shore and from within the SDNP.*
- *Clear lines of sight should be left between the arrays (R1 and R2), so that open views to the horizon are maintained when viewed from shore and from within the SDNP.*
- *The design of the new array should aim to balance the two arrays as far as practicable in terms of apparent turbine size and spacing, taking advantage of the effects of perspective to reduce any apparent difference in size between turbines".*

5.1.11 The SDNPA also made recommendations in its formal consultation feedback with regards to the Proposed Development design:

- *"Turbines should not exceed 225m to blade tip in height.*
- *Clear separation between Rampion 1 and 2 to minimise the horizontal extent.*
- *Turbine layout is designed in coherent blocks.*
- *Full north to south extent of the extension area should be utilised to maximise the size of east/west gaps between the arrays".*

5.1.12 Concerns were raised by SDNPA with regard to development in the Zone 6 Area located to the east of Rampion 1, which formed part of the original Rampion 1 consented development area and included a SEZ (Plate 1). This SEZ was applied to mitigate the impact of Rampion 1 on the SDNP and Sussex Heritage Coast by increasing its distance away from these receptors and reducing the horizontal spread, decreasing the extent to which the Rampion 1 wind farm would be visible in views out to sea (as described in **Section 4**).

5.1.13 Feedback also noted that offshore wind farm development to the west of Rampion 1 has the potential to further adversely affect the seascape setting of the SDNP and that a curtaining effect could be created, thereby reducing the extent of open views from the shore to the horizon.

5.1.14 The Applicant had regard to these comments and the statutory purpose of the SDNP designation, and as a result, as part of its review of responses to the statutory consultation and in considering how the project could be refined and presented in the application for DCO, the Zone 6 Area (to the east) and the Extension Area (to the west) were reduced from the PEIR Assessment Boundary (RED, 2021). The reduced area forms the Offshore Array for Rampion 2, as shown in **Figure 3.3, Chapter 3: Alternatives – Figures, Volume 3** of the ES [**APP-075**]

and in the SLVIA chapter in **Figure 15.1, Chapter 15: Seascape, Landscape and Visual Impact Assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**].

5.2 Seascape, Landscape and Visual Design Principles

Scale of generation and viability

5.2.1 The design of the Proposed Development as described in the application for Rampion 2 has evolved, including in relation to the extent of the Order limits, through a multi-disciplinary approach. In addition to seascape, landscape and visual impacts, several other factors shaped the project design including commercial viability modelling, flexibility/resilience for future WTGs, and the need to respond to multiple environmental and technical constraints and respond to *"both functionality and aesthetics"* (NPS EN-1 DECC, 2011a).

5.2.2 The scale of generation required of the Project is described in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** (paragraphs 3.2.14 – 3.2.19). There is an urgent need for new renewable energy infrastructure, as expressed in national energy and planning policy (NPS EN-1 (DECC, 2011a) and others). The most recent draft of the Energy National Policy Statement (DESNZ 2023a) described this as a critical national priority. The starting assumption for project design was therefore to maximise the potential for renewable energy generation, within the environmental and technical constraints of the proposed DCO Order Limits.

5.2.3 During the design process, substantial revisions were made to the wind farm area of search, the scoping boundary and then the PEIR boundary in response to feedback received at each stage, balancing the desire to maximise the energy generation capacity of the proposed development whilst responding to environmental constraints. This included the need to have regard to the purpose of conserving and enhancing designated landscapes and reducing adverse effects upon them where possible to minimise harms and avoid compromising their statutory purpose.

5.2.4 1,200MW was estimated as the likely potential capacity of the Rampion 2 proposed development, seeking to maximise generating capacity, within reasonably likely environmental and technical limits. This planning assumption was used to seek a grid connection, while allowing flexibility for further design work around constraints.

SLVIA topic specific design principles

5.2.5 The SLVIA topic specific design principles described in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] focus on reducing adverse effects on designated landscapes (in line with the aims of NPS-EN1 DECC, 2011a) in the context of the scale of generation required of the Project.

5.2.6 Section 15.7 (para 17.7.8 – 15.7.62) of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] sets out the SLVIA

topic specific design principles that have been applied to the design of Rampion 2, particularly in regard to the spatial extent of the Offshore Array Area, and the seascape, landscape and visual rationale for selection of the Proposed Development design envelope for the Offshore Array Area.

5.2.7 The Applicant has applied the mitigation hierarchy through the embedded measures incorporated within the project design. Likely significant effects on seascape, landscape and visual receptors have been reduced through embedded design measures to reduce adverse effects, such as on the special qualities of the SDNP and its views. The residual effects arising from Rampion 2 that are not capable of being addressed by application of the mitigation hierarchy are then identified and assessed in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] (Section 15.9 to 15.14).

5.2.8 Rampion 2 responds to 'good design' in respect of seascape, landscape and visual receptors through the application of SLVIA topic specific design principles. These principles have shaped the design and spatial extent of Rampion 2, with the aim of reducing the magnitude and geographic extent of seascape, landscape and visual effects of the Proposed Development and minimising harm to the special qualities of nationally designated landscapes, particularly the SDNP and the associated Sussex Heritage Coast.

5.2.9 These design principles have been developed in consultation with stakeholders and applied to reduce the spatial extent of the array area and the number of WTGs proposed, such that the project design responds to these combined principles and reduces the magnitude and geographic extent of effects, as follows:

- 'Field of view' – reducing the field of view or 'horizontal extent/lateral spread' of Rampion 2 and the visually combined lateral spread of Rampion 1 and Rampion 2.
- 'Proximity' - increasing the distance of Rampion 2 from most sensitive areas of coastline to reduce the apparent height of WTGs and increase sense of remoteness (with consequential benefits to other design principles).
- 'Wind farm separation zones' - achieving a separation between Rampion 1 and Rampion 2 arrays, with a clear distinction and clear lines of sight between arrays.
- 'Separation foreground' - avoiding juxtaposition of larger Rampion 2 WTGs in front of smaller Rampion 1 WTGs, to balance arrays and apparent turbine size, insofar as possible.

5.2.10 The Applicant explored the potential impacts of the array area boundary in respect of these principles and embedded them within the project design after the Section 42 consultation and through the definition of the proposed DCO Order Limits, which responds to these combined principles. The design principles were translated into the array area boundary by exploring the relationship of the spatial extent of WTGs within the array area, and the resulting visual impacts , with the aim of minimising impacts and harm to special qualities of the SDNP, particularly its 'breathtaking views' and showing regard to the statutory purpose of the SDNP.

5.2.11 Consultation with stakeholders was undertaken through the Evidence Plan Process after the s42 consultation, to explore the opinion of stakeholders on the relative merits of these design principles and the changes in spatial extent of the array area and location of WTGs. Reducing the field of view occupied by Rampion 2, particularly in views from the Sussex Heritage Coast, was considered to afford the best opportunity to reduce effects on the 'panoramic views of the sea' afforded from the Heritage coast of the SDNP, and it was agreed between the participants in the ETG that reductions in the HFoV were demonstrably capable of making a difference to the project design and impacts arising. There was also agreement between the participants in the ETG that the design principles could achieve more if being combined to go hand in hand with each other, for example addressing both field of view and proximity, rather than being applied as stand-alone principles.

5.2.12 Paragraphs 15.7.29 – 15.7.62 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] explains these design principles further and how they were translated into the proposed Order Limits between statutory consultation and as presented in the DCO application (**Figure 15.1, Chapter 15: Seascape, landscape and Visual Impact Assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**]) and how they reduce the magnitude of effect on seascape, landscape and visual receptors, particularly the SDNP and its associated Heritage Coast.

5.2.13 These embedded environmental measures are considered to address many of the concerns raised and recommendations provided by stakeholders in the Statutory Consultation (Table 15-7, **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**]) and demonstrate 'good design' and effective application of the mitigation hierarchy in respect of national planning policy in NPS EN-3 (DECC, 2011b) and NPS EN-1 (DESNZ, 2023a).

5.2.14 Rather than repeating the detailed narrative already provided on the SLVIA design principles contained within **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**], the following sections of this clarification note focus on providing further evidence as requested by National England in its relevant representation **[RR-265]** in respect of the design principles for Rampion 1 and the MDS considered in the SLVIA in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**].

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6. Additional evidence requested by Natural England

6.1 Design of Rampion 2

6.1.1 In its Relevant Representation, Natural England (I2 2.1) **[RR-265]** requests further evidence from the Applicant as follows in respect of the design of Rampion 2:

a. *"Detail on how the Rampion 1 Design Principles have influenced the Rampion 2 maximum design scenario.*

b. *The Applicant's justification for why the Rampion 1 mitigation measures do not directly apply to the Rampion 2 project.*

h. *A demonstration of how the design of Rampion 2 limits as far as possible the horizontal field of view (HFoV) of WTG from the SDNP and the SHC.*

i. *A clear and direct assessment of the impact that the Rampion 2 Design Principles have on the special qualities of the SDNP".*

6.1.2 Further clarification is provided as follows.

(a) (b) Influence of Rampion 1 Design Principles

6.1.3 The Applicant considers that it has had, and is having, due regard to the design principles held in the Rampion 1 Design Plan (Commitment C-61, **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES, Table 15-26 [**APP-056**]), however it would note that Rampion 2 is a different project that should respond to its own design parameters and principles that respond to its location and surroundings. The topic specific SLVIA design principles that have shaped the design of Rampion 2 (Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**]) have incorporated many elements of the Rampion 1 design principles including:

- limiting the Horizontal Field of View (HFoV) of WTGs from the SDNP and Sussex Heritage Coast;
- increasing the distance of WTGs from the Sussex Heritage Coast of the SDNP;
- through the reduction in spatial extent of the Zone 6 area of the Order Limits, WTGs will be located further to the south-west than was proposed in the PEIR assessment boundary; and
- providing clear sight lines through the wind turbine layout

6.1.4 The Applicant considers that it would not be appropriate to replicate the Rampion 1 design principles in their entirety and that Rampion 2 should respond to its own design parameters and principles, while having regard to those implemented for

Rampion 1 (as per Commitment C-61, **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES, Table 15-26 [**APP-056**]).

6.1.5 Design principles that help reduce effects on the Sussex Heritage Coast of the SDNP have been incorporated or adapted to apply to Rampion 2, while other Rampion 1 design principles that are not considered appropriate for Rampion 2 have not been included. For example, the Rampion 1 design principle (iii) includes reference to a 'hybrid scheme' i.e. WTGs of different heights in different parts of the site, which was not implemented at Rampion 1. This is not under consideration for Rampion 2 and an amendment was made to the draft DCO at the pre-examination procedural deadline to confirm that there would be no material difference in the size of the turbines installed.

6.1.6 The Rampion 1 consented area (and Zone 6) extended notably further east than is proposed in the Rampion 2 DCO order limits, which is located to the south of Rampion 1 with an eastern boundary that aligns with that of Rampion 1 and is therefore located at greater distance from the Heritage Coast of than was consented for Rampion 1, as shown in **Figure 1**.

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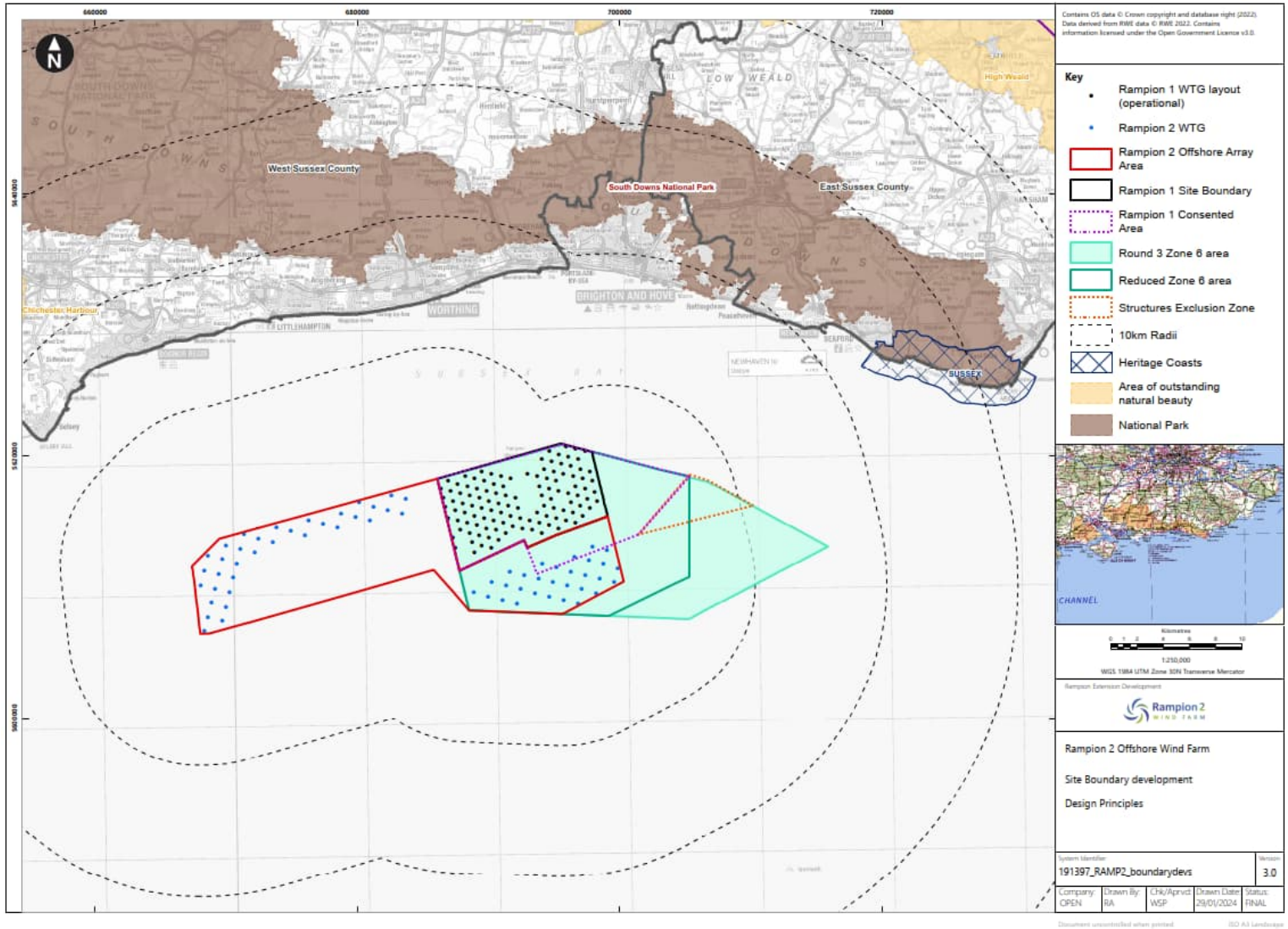
Figure 1: Rampion 2 Offshore Array Area relative to Zone 6 area and Rampion 1 consented area



6.1.7 Rampion 2 has applied design mitigation in this regard through the spatial extent of the DCO order limits, which avoid the more sensitive areas of seascape to the east of the Rampion 1, including avoidance of the Rampion 1 structures exclusion zone (SEZ).

6.1.8 The Rampion 2 DCO order limits (Offshore Array Area) do not extend to the east of Rampion 1 and are located entirely to the south and west of Rampion 1, avoiding the consented areas of Rampion 1 that were in closer proximity to the Suffolk Heritage Coast of the SDNP.

6.1.9 Locating WTGs within the area to the south of Rampion 1 is considered optimal from a landscape and visual perspective as the Rampion 2 WTGs will be located behind Rampion 1 (and further offshore) when viewed from the north and to the south of Rampion 1 when viewed from the Heritage Coast of the SDNP.

6.1.10 Overall, the Applicant considers that it has had due regard to the design principles in the Rampion 1 design plan, as per Commitment C-61 (Table 15-26, **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**]) in the design and spatial extent of the DCO order limits for Rampion 2, which have limited its HFoV from the Heritage Coast, increased its distance offshore from the Heritage coast and respected the SEZ established for Rampion 1, with WTGs located further to the south-west (through the reduction in spatial extent of the Zone 6 area of the Order Limits) and provided a clear line of sight (separation) between the Rampion 1 and Rampion 2 arrays in key views from the Heritage Coast.

6.1.11 The design evolution, including having regard to the Rampion 1 design principles, has resulted in a significant reduction in the extent of the array area between the area of search at Scoping, the PEIR assessment boundary and the proposed DCO Order Limits presented in the ES, in order to reduce effects on receptors including the SDNP and Heritage Coast. These reductions in the developable area and design principles are embedded within the project through the Order Limits and Works Areas secured by the **Offshore Works Plans [PEPD-004]** and Works Area Descriptions provided in full in Schedule 1 of the **Draft Development Consent Order [PEPD-009]**.

(h) Demonstration of how the design of Rampion 2 limits the horizontal field of view (HFoV) from the SDNP and the SHC

6.1.12 It was agreed with stakeholders during consultations on the project design that reducing the horizontal field of view (HFoV) occupied by Rampion 2, particularly in views from the Suffolk Heritage Coast, was demonstrably capable of reducing effects on the panoramic views of the sea experienced from designated landscapes such as the SDNP and the Heritage Coast.

6.1.13 'Field of view' was therefore adopted as key design principle when defining the spatial extent of the Offshore Array Area of the DCO Order Limits, with the aim of reducing the HFoV or 'lateral spread' occupied by Rampion 2. This is described in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] Section 15.7 (para 15.7.29 to 15.7.34).

6.1.14 The field of view or 'lateral spread' of Rampion 2 (and therefore the visually combined lateral spread of Rampion 1 and Rampion 2) has been minimised by reducing the easterly and southerly extent of the 'Zone 6' area of the Offshore Array Area of the DCO Order Limits compared to the Scoping Boundary and PEIR assessment boundary (Figure 15.2, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES, [**APP-088**]).

6.1.15 Particular regard was given to limiting the HFoV occupied by Rampion 2 in *'panoramic views to the sea'* experienced from the Heritage Coast of the SDNP. This coastline of the SDNP has the most prominent association with the seascape along its section of coastal cliffs forming the maritime edges of the SDNP, from which there are *'panoramic views of the sea'* defined in SDNP Special Quality 1. Limiting the HFoV occupied by Rampion 2 in these panoramic views of the sea afforded most opportunity to reduce effects by limiting the extent of developed horizon and retaining the widest expanse of undeveloped sea in the panorama.

6.1.16 Embedded design measures therefore focused particularly on reducing effects on these panoramic views of the sea from the Heritage Coast of the SDNP, including from the following viewpoints along this coastline:

- Viewpoint 1 Beachy Head Figure 15.26, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**].
- Viewpoint 2 Birling Gap Figure 15.27, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**].
- Viewpoint 3 Seven Sisters Figure 15.28, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**].
- Viewpoint 4 Seaford Head **Figure 15.29, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3 of the ES** [**APP-091**].
- Viewpoint 28 Cuckmere Haven Figure 15.28, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**].

6.1.17 Reductions in the HFoV occupied by Rampion 2 in these views from the Heritage Coast would also translate to reductions in the HFoV in views from the range of inland vantage points along the open tops of the central downs.

6.1.18 The field of view reduction that has been achieved by the revised spatial extent of the array area is expressed quantitatively in Table 15-27 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**], for each representative viewpoint assessed in detail in **Appendix 15.4: Viewpoint Assessment, Volume 4** of the ES [**APP-160**] and is evident in the comparative wirelines presented from a selection of key viewpoints in **Figures 15.93 - 15.109, Chapter 15: Seascape, landscape and Visual Impact Assessment – Figures (Part 8 of 8), Volume 3** [**APP-095**].

6.1.19 In the viewpoint assessment undertaken in **Appendix 15.4: Viewpoint Assessment, Volume 4** of the ES [**APP-160**], each viewpoint includes a description and measurement (in degrees) of the overall HFoV affected by Rampion 2 as a proportion of the available view, as well as the 'additional' HFoV that Rampion 2 adds beyond the HFoV already affected by Rampion 1 i.e. its additional contribution or extension to the wind farm developed HFoV.

6.1.20 The additional HFoV is a key consideration in assessment judgements and needs to be considered as well as the overall HFoV of Rampion 2, since it provides a better indication of how much additional spread of WTGs Rampion 2 will contribute to the view (over and above that already affected by Rampion 1). In many cases, this additional lateral spread is considerably less, when either the eastern (Zone 6) array or the western extension area of Rampion 2 is viewed behind Rampion 1, depending on the angle of view, so only part of the array contributes to extending the lateral spread beyond the existing Rampion 1 WTGs.

6.1.21 **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] notes that the Offshore Array Area of the proposed DCO Order Limits achieves the following in respect to limiting the HFoV from the SDNP and the Heritage Coast:

- a field of view reduction when compared to the PEIR assessment boundary from all viewpoints through the omission of turbine rows from the southern and eastern parts of the Zone 6 area of the proposed DCO Order Limits
- reduced eastern lateral spread in southerly views from the central areas of the SDNP (such as Viewpoints 17, 18, 19, 27, 54 and 55) and East Sussex coastline (such as Viewpoints 5, 6 and 8).
- reduced southern lateral spread in south-westerly views from the Sussex Heritage Coast area of the SDNP (such as Viewpoints 1, 2, 3, 4 and 28) and eastern parts of the SDNP (such as Viewpoints 15, 16, and 57).

6.1.22 Comparative wirelines presented from a selection of key viewpoints in **Figures 15.93 - 15.109, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**] compare the PEIR and ES maximum design scenario (MDS) layouts and very clearly illustrate how the HFoV occupied by Rampion 2 (and therefore its effects) were reduced in views from the SDNP and the SHC.

6.1.23 In the most sensitive 'panoramic views to the sea' from the eastern parts of the Sussex Heritage Coast of the SDNP, the lateral spread (HFoV) of WTGs in 'panoramic views of the sea' from the Heritage Coast has been notably reduced. The additional lateral spread of Rampion 2 WTGs occupies a narrow portion of the overall view - an additional 6.5° from Beachy Head and 7.3° from Birling Gap. Rampion 2 will also form a separate array grouping (due to the wind farm separation zone to the south of Rampion 1) with a narrower lateral spread than Rampion 1 Wind Farm. There will remain a panoramic seaward outlook and open sea skyline unaffected across the majority of the panoramic view of the sea.

6.1.24 The assessment in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] has found that as a result of these reduction in the HFoV, together with other design principles to increase its

distance from the coast and create separation with Rampion 1, the effects of Rampion 2 on 'panoramic views to the sea' are assessed as not significant from the eastern part of the Sussex Heritage Coast area of the SDNP, between Birling Gap **Figure 15.27, Chapter 15: Seascape, landscape and visual impact Assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**] and Beachy Head **Figure 15.26, Chapter 15: Seascape, landscape and visual impact Assessment – Figures (Part 4 of 8), Volume 3** of the ES [**APP-091**] at distances of approximately 29 – 32 km.

(i) Impact that the Rampion 2 Design Principles have on the special qualities of the SDNP

Effects on special qualities

6.1.25 A detailed assessment of the magnitude of change and significance of effect is provided for each representative viewpoint in the SDNP in **Appendix 15.4: Viewpoint Assessment, Volume 4** of the ES **[APP-160]**. The Applicant notes that Natural England's judgements differ from those of the Applicant on the significance of effects assessed for the eastern half of the Sussex Heritage Coast area of the SDNP, between Beachy Head (Viewpoint 1) and Birling Gap (Viewpoint 2). It is noted that Natural England agrees that there has been a reduction in the magnitude of effects in views from Beachy Head to Birling Gap, however it considers these do not tip below the 'significant effect' threshold.

6.1.26 The Applicant's assessment is that the eastern half of the Sussex Heritage Coast of the SDNP is the key area that benefits from a reduction in effect, due the design changes made to Rampion 2 between PEIR and ES. The revised spatial extent of the DCO order limits do not extend east of Rampion 1 and avoid the 'most sensitive areas' to the east of the Rampion 1 consented area and Zone 6 area, which were in closer proximity to the Suffolk Heritage Coast of the SDNP.

6.1.27 This design evolution occurred since the PEIR stage and has resulted in the reduction of the PEIR Boundary to the proposed DCO Order Limits (**Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES) **[APP-088]**. The Applicant's assessment in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** and **Appendix 15.4: Viewpoint Assessment, Volume 4** of the ES **[APP-160]** is that these design changes have led to tangible reductions in the magnitude of change arising from Rampion 2 on views and scenic qualities of the Sussex Heritage Coast area of the SDNP, which was the focus of the design mitigation given its maritime coastline, heightened sensitivity and feedback from stakeholders.

6.1.28 The magnitude of change was therefore assessed as reducing from medium to medium-low and the effects assessed as Not Significant (Moderate) on views and special qualities of the eastern half of the Sussex Heritage Coast area of the SDNP, between Beachy Head (Viewpoint 1) and Birling Gap (Viewpoint 2), as set out in **Appendix 15.4: Viewpoint Assessment, Volume 4** of the ES [**APP-160**] (pages 5-11) and summarised as the following reasons:

- Increased distance away from these receptors. Beachy Head is located 31.9 km and Birling Gap 28.8 km from the Rampion 2 array area.
- The vertical height/apparent scale of the proposed WTGs will be reduced at this distance and given the large scale of the seascape in the view.
- Reduced and limited additional spread, with the eastern array of Rampion 2 adding only 6.5° to the HFoV from Beachy Head and 7.3° from Birling Gap. This a narrower lateral spread than Rampion 1 and is relatively narrow additional portion of the wider panoramic sea views available.
- Rampion 2 will introduce elements that are already characteristic in the receiving view, with a similar form to the Rampion 1 WTGs.
- There is a relative balance in apparent scale and spread in perspective, with stark scale comparisons avoided through the separation between the distinct Rampion 1 and Rampion 2 arrays in these views.
- The windfarm separation zones between the Rampion 1 and Rampion 2 arrays allows the Rampion 2 array to be viewed with less contrast and as a distinct element.

6.1.29 All of these factors resulted directly from the design changes made to the Rampion 2 DCO order limits between PEIR and ES through the application of the design principles described in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES (**Section 15.7**) [**APP-056**].

6.1.30 The Applicant's assessment is that there is a change in impact threshold geographically within the Sussex Heritage Coast at Seven Sisters and Seaford Head that are within closer proximity, where the magnitude of change increases to medium and the effect becomes significant (major/moderate). This effect was observed in the field during site surveys and is reported in the **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056]**. The influence of the weather on visibility was also found to be a notable factor in the visibility of Rampion 1 between the eastern and western half of the Sussex Heritage Coast.

Influence of Rampion 2 Design Principles

6.1.31 The impact of Rampion 2 and the potential for design principles to reduce effects on the special qualities of the SDNP through its size ('apparent scale'), proximity and lateral spread in respect of the SDNP and Heritage Coast were key issues considered in the project design evolution.

6.1.32 The array area has been reduced and designed according to a set of SLVIA specific design principles, as described above and set out in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES, **Section 15.7** [**APP-056**].

6.1.33 The application of the design principles responds to the requirement for 'good design' as set out in NPS EN1 (DECC, 2011a) in respect of seascape, landscape and visual receptors, with the aim of reducing the magnitude of effects of the Proposed Development on national designations, particularly the Heritage Coast of the SDNP.

6.1.34 These design principles have been embedded within the spatial extent of the array area:

- Field of view - reducing the field of view or 'horizontal extent/lateral spread' of Rampion 2 and the visually combined lateral spread of Rampion 1 and Rampion 2.
- Proximity - increasing the distance of Rampion 2 from most sensitive areas of coastline to reduce the apparent height of WTGs and increase sense of remoteness (with consequential benefits to other design principles).
- Wind farm separation zones - achieving a separation between Rampion 1 and Rampion 2 arrays, with a clear distinction and clear lines of sight between arrays.
- Separation foreground - avoiding juxtaposition of larger Rampion 2 WTGs in front of smaller Rampion 1 WTGs, to balance arrays and apparent turbine size, insofar as possible.

6.1.35 These design principles shaped the reduction in spatial extent of the offshore array between Scoping, PEIR and ES is shown in **Figure 15.2, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**] and in **Figure 3.2** and **Figure 3.3, Chapter 3: Alternatives – Figures, Volume 3** of the ES [**APP-075**].

6.1.36 Comparative wirelines illustrating the reduction in effects between PEIR and ES MDS layouts are shown in **Figures 15.93 – 15.109, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 8 of 8), Volume 3** of the ES [**APP-095**]. They very clearly illustrate how effects on the panoramic views to the sea (part of special quality 1) were reduced through application of the design principles.

6.1.37 In summary, the adverse effects of the Rampion 2 array on the special qualities of the SDNP and the Heritage Coast have been minimised through these design principles as follows:

Field of view

6.1.38 Further demonstration of how the design of Rampion 2 limits the horizontal field of view (HFoV) from the SDNP and the SHC is provided above under heading (h) **paragraphs 6.1.12 to 6.1.24**.

6.1.39 Particular regard was given to limiting the HFoV occupied by Rampion 2 in *'panoramic views to the sea'* experienced from the Heritage Coast of the SDNP. Limiting the HFoV occupied by Rampion 2 in these panoramic views of the sea afforded most opportunity to reduce effects on SQ1 by limiting the extent of developed horizon and retaining the widest expanse of undeveloped sea in the panorama.

6.1.40 In the most sensitive 'panoramic views to the sea' from the eastern parts of the Sussex Heritage Coast of the SDNP, the lateral spread (HFoV) of WTGs in 'panoramic views of the sea' from the Heritage Coast has been notably reduced through a reduction in the Zone 6 area of the DCO Order Limits.

Proximity

6.1.41 The spatial extent of the array area has been reduced considerably through the removal of part of the Zone 6 area. As a result, WTGs within the DCO Order Limits in the Zone 6 area are at greater distance from the Heritage Coast of the SDNP.

6.1.42 The increased distance of Rampion 2 from the Heritage Coast is evident in **Figure 15.13 Comparative ZTV, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES **[APP-088]** and from the following viewpoints in the Heritage Coast (**Table 15-27**, **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**]):

- Viewpoint 1 Beachy Head (**Figure 15.26a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] DCO Order Limits (array area) is 31.9 km from the Heritage Coast compared to PEIR assessment boundary 25.1 km.
- Viewpoint 2 Birling Gap (**Figure 15.27a-f, Chapter 15: Seascape, landscape and visual Impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] DCO Order Limits (array area) is 28.8 km from the Heritage Coast compared to PEIR assessment boundary 21.9 km.
- Viewpoint 3 Seven Sisters (**Figure 15.28a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] DCO Order Limits (array area) is 26.6 km from the Heritage Coast compared to PEIR assessment boundary 19.7 km.
- Viewpoint 4 Seaford Head (**Figure 15.28a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] DCO Order Limits (array area) is 23.9 km from the Heritage Coast compared to PEIR assessment boundary 17.1 km.
- Viewpoint 28 Cuckmere Haven Beach (**Figure 15.51a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] DCO Order Limits (array area) is 26.2 km from the Heritage Coast compared to PEIR assessment boundary 19.3 km.

6.1.43 The distance between the array area and the Sussex Heritage Coast of the SDNP has been maximised as far as possible, taking account of the siting, operational and other relevant constraints.

6.1.44 Rampion 2 array area avoids the ‘most sensitive areas’ of seascape to the east of Rampion 1 and the overall Zone 6 area, being concentrated to the south and west of Rampion 1. The Rampion 2 array area does not extend to the east of Rampion 1 and even avoids the consented areas of Rampion 1, that were in closer proximity to the Suffolk Heritage Coast of the SDNP.

6.1.45 The Zone 6 area of the Rampion 2 DCO Order Limits is sited to the south of Rampion 1 and is considered the optimal location within the Zone 6 area, in seascape, landscape and visual terms (due to its position behind and to the south of Rampion 1 at greater distance offshore).

6.1.46 The increased distance of Rampion 2 from the Open Downs of LCA A1 to north-east is also evident in **Figure 15.13 Comparative ZTV, Chapter 15: Seascape,**

landscape and visual impact assessment – Figures (Part 1 of 8) Volume 3 of the ES (**APP-088**] from Viewpoints 15, 16, 17, 27, 51, 57, 58 in the SDNP.

6.1.47 The western extension area is outside of the areas of sea identified by SDNP as having a high sensitivity to such development in its offshore wind farms buffer study (SDNP, 2021).

6.1.48 There are likely to be larger WTGs available than those proposed, however the Applicant has designed the maximum WTG parameters (325m blade tip height) in the **Draft Development Consent Order [PEPD-009]** with regard to the potential effects of the Proposed Development on designated landscapes.

6.1.49 Whilst there may be turbines available which are larger than the larger turbine size assessed for Rampion 2, the parameters established in the **Draft Development Consent Order [PEPD-009]** reflect the maximum extent of the MDS assessed in the ES. These maximum parameters will ensure that the turbines installed cannot exceed the maximum height of 325m, and the maximum number of such large turbines (65, as restricted through the application of the restriction on rotor swept area) as assessed in the Environmental Statement, to ensure that the potential effects of the Proposed Development on receptors including designated landscapes as described in the ES are not exceeded.

6.1.50 NPS EN-3 (DESNZ, March 2024) para 3.8.224 requires that *"Where a proposed offshore wind farm will be visible from the shore and would be within the setting of a nationally designated landscape with potential effects on the area's statutory purpose, a seascape, landscape and visual impact assessment (SLVIA) should be undertaken in accordance with the relevant offshore wind farm EIA policy and the latest Offshore Energy SEA, including the White 2020 report*".

6.1.51 The White 2020 report (White Consultants, March 2020) recommends a distance buffer of 40 km between nationally designated landscapes and WTGs of 301-350 m height based on a limit of visual significance (i.e. to achieve low magnitude of change on a high sensitivity receptor and therefore effects which are not significant). The report does not suggest no-go areas for development, it is a strategic tool and is not guidance or a roadmap for placing of wind farms, which are allocated by The Crown Estate and it is not in the Applicant's remit to locate sites to avoid all impacts. High level 'buffer' studies do not ultimately replace the need for site specific assessment.

6.1.52 Rampion 2 does not achieve this visual buffer from the SDNP or Heritage Coast, however much of the Heritage Coast and SDNP do fall into the range (24 – 35 km) of medium magnitude identified in the White 2020 Report (Table 13.1) and much of the more distant areas of the SDNP fall into the low magnitude (35 – 44 km) category identified within the White 2020 Report .

6.1.53 The findings of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056]** and White 2020 Report (White Consultants, March 2020) align that based on proximity/distance of Rampion 2, the magnitude of change would not be 'high' from the Heritage Coast or the wider open downs of the SDNP to the north.

6.1.54 NPS EN-3 (DESNZ, March 2024) para 3.8.224 states that *"Where a proposed offshore wind farm will be visible from the shore and would be within the setting of*

a nationally designated landscape with potential effects on the area's statutory purpose, should be undertaken in accordance with the relevant offshore wind farm EIA policy and the latest Offshore Energy SEA, including the White 2020 report".

6.1.55 OESEA4 (2022) is the latest Strategic Environment Assessment (SEA). Considerations with respect to the visual impacts of offshore wind farms are provided In Section 5.8 and Appendix 1, with reference to the White 2020 report (White Consultants, March 2020). OESEA4 (2022) recognises that *"In practice development scenarios will vary for each individual wind farm and also the variables determining visibility for individual wind farms. The visibility of structures from the coast, or their intrusion on sites designated for their visual qualities, does not necessarily preclude development in planning (see: NPS (EN-1) and the MPS), and any consideration of coastal "buffers" is too generalised an approach to take into consideration the many anthropogenic and natural variations along the coast and the variety of development scenarios which might take place (e.g. installation number, type, design and orientation)".*

6.1.56 The OESEA (2022) therefore does not suggest no-go areas for development, it is a strategic tool and is not guidance or a roadmap for placing of wind farms, which are allocated by The Crown Estate and it is not in the Applicant's remit to locate sites to avoid all impacts. High level 'buffer' studies do not ultimately replace the need for site specific assessment, which has been undertaken in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**], of which the findings have informed the project design and the embedded environmental measures, as described in Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**].

Wind farm separation zones

6.1.57 The Applicant welcomes Natural England's view expressed in its relevant representation (Natural England, November 2023) [**RR-265**] that the inclusion of the 'wind farm separation zones' Design Principle successfully acts to significantly reduce seascape and visual effects on the most sensitive views from parts of the SHC within the SDNP. Given the spatial extent of the DCO Order Limits to both the south and west of Rampion 1, the Applicant considers that it is not possible to provide clear lines of sight between Rampion 1 and all of Rampion 2 at the same time (i.e. in the same views). This full separation would only be possible, for example, if all the Rampion 2 WTGs were located within the western extension area and this is not the MDS in terms of seascape and visual effects.

6.1.58 The Rampion 2 design principle focused on providing wind farm separation zones between each of the western and eastern array areas with Rampion 1, so that they will in particular key views, be viewed with a clear distinction and so that the apparent scale difference of the Rampion 1 and Rampion 2 WTGs would be minimised, insofar as possible.

6.1.59 The inclusion of the 'wind farm separation zones' (between Rampion 1 and Rampion 2) successfully acts to reduce seascape and visual effects on the most sensitive views from parts of the SHC within the SDNP.

6.1.60 In views from the SHC (VP1 - VP4), there is a relative balance in apparent scale and spread in perspective, with stark scale comparisons avoided through the separation between the distinct Rampion 1 and Rampion 2 arrays in these views.

6.1.61 A clear line of sight between Rampion 1 and Rampion 2 eastern array (Zone 6) is evident from the following viewpoints of the SHC within the SDNP:

- Viewpoint 1 Beachy Head (**Figure 15.26a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**]
- Viewpoint 2 Birling Gap (**Figure 15.27a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume** 3 of the ES) [**APP-091**]
- Viewpoint 3 Seven Sisters (**Figure 15.28a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**]
- Viewpoint 28 Cuckmere Haven Beach (**Figure 15.51a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**]

6.1.62 A clear line of sight is also evident between Rampion 1 and Rampion 2 western extension area from the following viewpoints of the inland open tops of the downs of the SDNP:

- Viewpoint 15 Willingdon Hill (**Figure 15.40a-b, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**]
- Viewpoint 17 Devil's Dyke (**Figure 15.42a-i, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 5 of 8), Volume 3** of the ES) [**APP-092**]
- Viewpoint 18 Cissbury Ring (**Figure 15.43a-h, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 6 of 8), Volume 3** of the ES) [**APP-093**]
- Viewpoint 19 Highdown Hill (**Figure 15.44a-i, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 6 of 8), Volume 3** of the ES) [**APP-093**]
- Viewpoint 27 Hollingbury Hill Fort (**Figure 15.50a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 6 of 8), Volume 3** of the ES) [**APP-093**]
- Viewpoint 51 Ditchling Beacon (**Figure 15.64a-b, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 7 of 8), Volume 3** of the ES) [**APP-094**]
- Viewpoint 52 Chanctonbury Ring (**Figure 15.65a-h, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 7 of 8), Volume 3** of the ES) [**APP-094**]

- Viewpoint 54 Chantry Hill (**Figure 15.67a-b, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 7 of 8), Volume 3** of the ES) [**APP-094**]
- Viewpoint 55 Beeding Hill (**Figure 15.68a-b, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 7 of 8), Volume 3** of the ES) [**APP-094**]

6.1.63 The significance of effects on views from the range of inland vantage points along the open tops of the downs is recognised in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**], due in part to the lateral spread of the western extension area,

6.1.64 However, the 'Separation Zones' and 'Separation Foreground' design principles afford mitigation in certain viewing angles from the open downs of the SDNP, where a clear line of sight is evident between Rampion 1 and the eastern array of Rampion 2 or the western array of Rampion 2 (depending on the viewing angle).

6.1.65 The significance of effects on views from the range of inland vantage points along the open tops of the downs is recognised in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**], due in part to the lateral spread of the western extension area, however, the Applicant considers that the 'Wind Farm Separation Zones' and 'Separation Foreground' design principles afford mitigation in certain viewing angles from the open downs of the SDNP, where a clear line of sight is evident between Rampion 1 and Rampion 2 western extension area. Rampion 2 will also be located at considerable distance (generally 20-30km to the closest WTG) and will be experienced within a remote context setting beyond the intervening, non-designated and urbanised coastal strip between these open downs and the sea.

Separation foreground

6.1.66 In order to balance the apparent scale of the Rampion 1 and Rampion 2 WTGs, insofar as possible, the juxtaposition of larger Rampion 2 WTGs in front of the smaller Rampion 1 WTGs has been minimised by reducing the easterly spatial extent of wind farm array area.

6.1.67 Siting of Rampion 2 WTGs in the north-east corner next to Rampion 1 is avoided, between Rampion 1 and the coast, such that the scale juxtaposition of larger WTGs in front of smaller WTGs is avoided in views from the SDNP and the Heritage Coast.

6.1.68 Apparent scale differences and complexities in aesthetic appearance between Rampion 1 and Rampion 2 WTGs have been reduced, through the revised spatial extent of the array area (avoiding areas to the east of Rampion 1) and the use of windfarm separation zones.

6.1.69 The design changes to the spatial extent of the DCO Order Limits, shown in **Figure 15.2, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES **[APP-088]** provides notable benefits in views from the Heritage Coast of the SDNP, evident in the comparative wirelines presented in **Figures 15.93 to 15.109, Chapter 15: Seascape,**

landscape and visual impact assessment – Figures (Part 8 of 8), Volume 3 of the ES **[APP-095]**.

6.1.70 In these views from the eastern parts of the Sussex Heritage Coast of the SDNP, there is a relative balance in apparent scale and spread in perspective and stark scale comparisons are avoided.

Summary

6.1.71 The Applicant has aimed to avoid, as far as possible, compromising the purposes of SDNP designation and has had regard to sensitive design taking into account various siting, operational, and other relevant constraints – with the aim of minimising effects on the special qualities of the SDNP.

6.1.72 In its relevant representation, Natural England recognises that:

- *"changes made to the DCO order limits have reduced the adverse effects of Rampion 2 on the portion of the SDNP contained within the Sussex Heritage Coast";*
- *"the reduction in the spatial extent of the Rampion 2 array will result in a better balance in apparent WTG size compared to that proposed in the PEIR";*
- *"the inclusion of the 'wind farm separation zones' Design Principle successfully acts to significantly reduce seascape and visual effects on the most sensitive views from parts of the SHC within the SDNP".*
- *"the adjustment of the MDS to reflect a smaller number of WTGs will reduce the magnitude and geographic extent of the seascape, landscape and visual effects of Rampion 2 on designated and defined landscapes".*

6.1.73 SDNPA also responded during Expert Topic Group (ETG) consultations (SDNPA email 29th July 2022) to advise that the design principles had a positive effect: "*The further work on the design principles, and the expansion of these from those presented earlier in the year is welcomed. We appreciate this has involved significant work on your part to pull together in an effort to reduce the adverse effects of the scheme on the South Downs National Park where it overlaps with the Heritage Coast in particular. We are pleased that this has evolved into a package of principles and the combination of these has a more positive effect than pursuing a single principle in an attempt to reduce impacts".*

6.1.74 This demonstrates that the Applicant has aimed to minimise adverse effects on the SDNP in line with NPS EN-1 (DECC, 2011a) (DESNZ, 2023a).

6.1.75 The design principles were subject to consultation and discussion between the Applicant and stakeholders in ETG meetings held in June 2022. A selection of relevant slides showing the design principles presented and discussed during these ETG meetings are presented in **Annex 1** of this document to further illustrate how adverse effects have been minimised and its regard the Applicant has had to the statutory purpose of the SDNP.

6.1.76 It is the conclusion of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056]** (paragraphs 15.15.9 – 15.15.74) and the position of the Applicant, that although the Offshore Array Area will affect

aspects of certain special qualities of the SDNP (special qualities 1 and 3), it will not compromise the statutory purpose of the SDNP designation. Whilst some harm would be caused to 'panoramic views to the sea', these have been reduced by limiting the HFoV occupied by Rampion 2 in panoramic views of the sea from the Heritage Coast and retaining the widest expanse of undeveloped sea in the panorama. These effects would not compromise the purpose of the SDNP designation as panoramic views to the sea will continue to be afforded to viewers, including 'breathtaking views' over the chalk cliffs of the Heritage Coast, and the majority of its remaining special qualities would be unaffected, and the natural beauty of the SDNP will remain and opportunities will still be present for understanding and enjoyment of the special qualities of the SDNP.

6.1.77 Further clarification with regards to the effects of Rampion 2 on the SDNP Special Qualities is provided in **Appendix 5: Further information for Action Point 27 submitted at Deadline 1** (Document Reference 8.25.5).

6.2 Maximum Design Scenario for Rampion 2

6.2.1 Natural England (I2 2.1) **[RR-265]** also requests further evidence from the Applicant as follows in respect of the MDS for Rampion 2:

c. *"Evidence to demonstrate why constructing more WTG in the Zone 6 (Eastern Array Area) than described within the indicative layout would not present a 'greater worse-case effect'.*

d. *Evidence to show that a greater densification of WTG in either the Zone 6 Area or Extension Area will not materially increase the effect of the Proposed Development on coastal views from protected landscapes.*

e. *An explanation of the balancing exercise that was undertaken between the spatial extent of the Rampion 2 array and the apparent height of Rampion 2 WTGs".*

6.2.2 As described in **Chapter 5: Approach to the EIA, Volume 2** of the ES [**APP-046**], where the design is still evolving, a precautionary approach has been applied to ensure a maximum design scenario (MDS) which represents the worst-case scenario assessed in the ES. This approach has been adopted in line with the Planning Inspectorate Advice Note Nine: Rochdale Envelope, July 2018 (Planning Inspectorate, 2018), further described in **Chapter 4: The Proposed Development, Volume 2** of the ES [**APP-045**] paragraphs 4.1.4 to 4.1.6.

6.2.3 In summary, the provision of a parameter-based design envelope is intended to identify key design assumptions to enable the environmental assessment to be carried out on a reasonable worst-case basis that is suitable to allow an assessment of its likely significant environmental effects whilst retaining the flexibility to accommodate further refinement during detailed design. The MDS is defined by parameters that are secured in the **Draft Development Consent Order** **[PEPD-009]** and submission documents.

6.2.4 Assessing the Proposed Development using this parameter-based design envelope approach means that the assessment has considered a MDS. This allows flexibility to make design decisions in the future that cannot be finalised at

the time of submission of the Application for development consent. Such design decisions may include the precise models and dimensions of WTG which will be available at the time of procurement for the Proposed Development, final offshore WTG layout design to optimise wind energy capture, and detailed engineering factors for both the offshore and onshore infrastructure. The approach allows the Proposed Development to harness innovation in technology and utilise what is commercially available at the point of delivery.

6.2.5 The MDS for seascape, landscape and visual is described in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**] **Section 15.7** 'Basis for ES assessment', which provides commentary on the appropriate reasonable MDS adopted in **Table 15-25**. The MDS for seascape, landscape and visual assumes 65 maximum number of WTG with the highest blade tip height (325 m) and largest rotor diameter (295 m) and a minimum WTG spacing of 1130 m based on an indicative MDS layout shown in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**]. Whilst the parameters include for up to 90 WTGs, the inclusion of a parameter limiting the rotor swept area ensures that no more than 65 of the largest turbines can be installed.

6.2.6 Further clarification on each of these points raised by Natural England relating to the MDS is provided in the following commentary.

(c) Potential for greater worst-case effect from Zone 6 (Eastern Array Area)

6.2.7 The Applicant can confirm that the SLVIA MDS layout shown in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**] is based on a fixed 'layout mesh' defined with available 'nodal points' at the minimum spacing of 1,130 m, as per Table 4-2, **Chapter 4: The Proposed Development, Volume 2** of the ES [**APP-045**].

6.2.8 'Nodal points' were available for potential WTG locations within the proposed DCO Order Limits for all layout variants considered for the MDS layout, with a need to keep flexibility for later layout optimisation on which of these nodal points will actually be used for WTGs (post-DCO Application).

6.2.9 34 of these nodal points are located within the Zone 6 eastern area of the proposed DCO Order Limits, outside the wind farm separation zones (**Figure 3.3, Chapter 3: Alternatives – Figures, Volume 3** of the ES) [**APP-075**]. 30 nodal points within the Zone 6 eastern area are occupied by an indicative WTG location in the SLVIA MDS layout shown in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**], with only four nodal points not utilised on the far south-western part of the Zone 6 area.

6.2.10 Based on the minimum spacing (1,130 m) of WTGs within the available space in the Zone 6 eastern area of the proposed DCO Order Limits, it is therefore only possible to accommodate a further four of the larger WTG type, in areas to the far south-western edge of the Zone 6 array, which would be furthest offshore and subsumed behind the other closer WTGs in the MDS layout. If a greater number of

WTGs were required in the zone, WTGs would be located 'behind' and further offshore than the MDS layout, which are already covered visually in the span of WTGs closer to the coast. WTGs subsumed behind the array in the south-western part of the Zone 6 eastern area of the proposed DCO Order Limits will not increase the magnitude/effect significance threshold assessed for the MDS layout.

6.2.11 Based on the minimum separation for the larger WTG type, the Applicant therefore considers that the majority of available space for WTGs in the Zone 6 area of the DCO order limits is utilised in the MDS layout presented in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**]. The potential for further densification within the DCO order limits of the Zone 6 area is very limited and would not present a 'greater worse-case effect' in views from the Sussex Heritage Coast of the SDNP than presented in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**] and assessed in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056**]. In this respect, it is reasonable to conclude that a greater worst-case effect from the Zone 6 (eastern extension area) would not occur.

(d) Greater densification of WTGs in either the Zone 6 Area or Extension Area

6.2.12 As described in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES (Table 15-25) [**APP-056**], the MDS layout (**Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES) [**APP-088**] has WTGs located to the full eastern and western extent of the wind farm array area, and in positions that are weighted towards the coastward perimeters of the Rampion 2 Offshore Array Area, as close as possible to the coastline within the array area, to represent the maximum effect in terms of the proximity, scale and spread of the WTGs in coastal views from receptors around the coastline, including Sussex Heritage Coast and South Downs National Park (SDNP) to the north and east, and West Sussex, the Chichester Harbour AONB (CHAONB) and Isle of Wight AONB (IoWAONB) to the west.

6.2.13 Subject to relevant spacing requirements and other engineering constraints, a greater proportion of WTGs than is shown in **Figure 15.1, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**] could be located in any particular area of the proposed Order limits, however it is considered that this indicative MDS 325m WTG layout covers the potential maximum adverse impacts of any scenario. The driver of magnitude of change is principally the proximity (and therefore apparent scale) of the front rows of WTGs to the coast, and their lateral spread (HFoV) across the view, with those in the background having diminishing contribution to the effect.

6.2.14 If a greater proportion of WTGs were to be installed in any area, including a bias towards either the eastern or western parts of the proposed Order limits, WTGs will require to be located 'behind' and further offshore than the other WTGs in the layout, which are already covered visually in the span of WTGs closer to the coast, viewed at larger scale, such that they will simply increase the depth of the layout

offshore and will not materially increase the effect of the Proposed Development in coastal views. Importantly, this means that additional WTGs would not increase the effect beyond an effect significance threshold already assessed for the MDS layout.

6.2.15 The realistic maximum design scenario layout shown in Figure 15.1, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 1 of 8), Volume 3** of the ES [**APP-088**] represents the maximum adverse effect on a 'whole-project' basis, being balanced between receptors to the east, north and west of the SLVIA study area. A greater proportion of WTGs within the western extension area, for example, would not be representative of the worst-case for sensitive receptors to the east of the study area, such as views and special qualities experienced from the Sussex Heritage Coast of the SDNP.

6.2.16 The SLVIA MDS layout was subject to extensive consultation and discussion between the Applicant and stakeholders in ETG meetings held between February 2020 and June 2022. One of the key aims of these meetings was to agree the SLVIA MDS layout for assessment in the PEIR and then subsequently the ES. Alternative MDS layouts were presented to the ETG, exploring the potential balance of WTGs within the western extension area and the Zone 6 eastern area, and the potential impacts arising on key receptors, using receptor mapping and wireline modelling to demonstrate the potential impacts of alternative project layouts and smaller and larger WTG heights. This included consideration of layouts occupying both the western extension area and Zone 6 eastern area; as well as 'extension area only' layouts, in which all of the WTGs were located in the western extension area.

6.2.17 Although it was evident that the 'extension area only' layouts resulted in some increase in densification of WTGs in views experienced by receptors to the west, the closest rows of WTGs to the coast and their span across the view contributed most to the effect, and as there was a subsequent reduction in effect on receptors to the east, such as the Sussex Heritage Coast and SDNP, the extension area only layouts did not represent an overall worst-case, particularly given the high sensitivity of the Heritage Coast receptors to the east. Wirelines from a number of key views were used to test the worst-case and presented to the ETG, showing both the western extension area and Zone 6 layout, and an Extension Area only layout. The realistic maximum design scenario layout (Figure 15.1 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 3,** [**APP-088**] ensures that the maximum adverse effects are balanced between receptors to the east, north and west. A layout that is entirely within the western extension area for example, would not cover the worst-case for receptors to the east such as the Sussex Heritage Coast of the SDNP.

6.2.18 The worse-case scenario was very clear in the wireline modelling of these alternative MDS layouts undertaken and presented during these ETGs (see Annex 2), due to the overall wider horizontal field of view (HFoV) occupied by WTGs within the western extension area and Zone 6 together in views from the SDNP; compared to the narrower HFoV of WTGs just within the western extension area. It was also clear that despite the additional densification of WTGs in the western extension area only layouts, the level of effect was represented by fewer rows of WTGs located around the closest edges of the extension area, since the driver of

magnitude of change was principally the proximity (and therefore apparent scale) of the front rows of WTGs to the coast and their span across the view (with WTGs in the background having a diminishing contribution to the effect).

6.2.19 The Applicant and the ETG agreed (Evidence Plan Process: SLVIA Targeted Meeting 02/03/2022) that it was preferable for a single worst-case MDS for the SLVIA to be assessed (rather than multiple scenarios) and that a layout with larger WTGs with the same spread and extent would likely have a higher degree of impact (and therefore represent the maximum effect).

6.2.20 A selection of relevant slides showing the alternative MDS layouts, receptor mapping and wirelines presented during ETG meetings is presented in Annex 2 of this document to illustrate to the Examining Authority (ExA) the consultations that were undertaken to define and agree the MDS for the SLVIA.

(e) Balancing exercise undertaken between the spatial extent of Rampion 2 array area and WTG height

6.2.21 As described in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**, Volume 2 of the Environmental Statement (ES) the Proposed Development has been developed through a multi-disciplinary design process including environment, engineering, energy generation and viability considerations. With regard to balancing between the spatial extent of the Rampion 2 Offshore Array Area and the WTG height, the Applicant has sought to reduce seascape, landscape and visual effects through the design process while meeting its requirements for the scale of generation required of the Project, as described in paragraphs 3.2.14 – 3.2.19 of **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**.

6.2.22 The Proposed Development will help meet the urgent need for new renewable energy infrastructure in the UK and supporting the achievement of the UK Government's climate change commitments and carbon reduction objectives. The Proposed Development will generate a likely potential capacity of 1,200 MW of renewable electricity. This additional generating capacity will contribute towards meeting the urgent need for new energy infrastructure in the UK, provide enhanced energy security, support the economic priorities of the UK Government and, critically, make an important contribution to decarbonisation of the UK economy. The Proposed Development type is recognised as being a critical national priority in revised NPS EN-1 (DESNZ, 2023a) and NPS EN-3 (DESNZ, 2023b), for which there is an urgent need to deliver.

6.2.23 The Applicant would highlight that it is not anticipated that the Rampion 2 project will be developed with WTGs much smaller than the range specified in **Table 4-2** of ES **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]** (285 – 325 m to blade tip) as they would not address the need to maximise energy generation and might no longer be commercially available at the procurement stage of the project.

6.2.24 The Applicant welcomes Natural England's view that (as reported in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES [**APP-056]**), the reduction in the spatial extent of the Rampion 2 array will result in a better balance in apparent WTG size compared to that proposed in the PEIR. The Applicant considers that this is clear in the visual representations

(photomontages) provided in the ES from views on the Sussex Heritage Coast of the SDNP, including Viewpoint 1 Beachy Head (**Figure 15.26, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES, **[APP-091]**); Viewpoint 2 Birling Gap (**Figure 15.27, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES, **[APP-091]**); Viewpoint 3 Seven Sisters (**Figure 15.28a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] and Viewpoint 4 Seaford Head (**Figure 15.28a-f, Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 4 of 8), Volume 3** of the ES) [**APP-091**] and the viewpoint assessments described for these in **Appendix 15.4: Viewpoint Assessment, Volume 4** of the ES **[APP-160]**.

6.2.25 Through the reductions in the spatial extent of the Offshore Array Area of the DCO Order Limits embedded within the project design, the Applicant considers that the Project has been designed carefully, in line with NPS EN-1 (DECC, 2011a) taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, while also balancing this with the generating capacity of the Project to contribute towards meeting the urgent need for new energy infrastructure in the UK.

7. References

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Annex 1
Design Principles presented to ETG June 2022

Selection of slides from June 2022 ETG meeting illustrating design principles

3. Key Design Principles (SLVIA)

The project team has considered all comments and focused on several key design principles during recent design review workshops. These are:

- ***Field of view*** - reduced field of view to minimise horizontal extent of development and visually combined lateral spread of R1 and R2.
- ***Proximity*** - increasing distance from most sensitive areas of coastline, with consequential benefits to other design principles, to reduce apparent height of turbines and increase sense of remoteness
- ***Separation gap*** - achieving a separation between existing R1 and proposed R2 arrays, with a clear distinction and clear lines of sight between arrays.
- ***Separation foreground*** - avoiding juxtaposition of larger R2 turbines in front of smaller R1 turbines, to balance arrays and apparent turbine size, insofar as possible.

We have explored the potential impacts of the array area boundary with these principles and arrived at a project design concept that responds to these combined principles.

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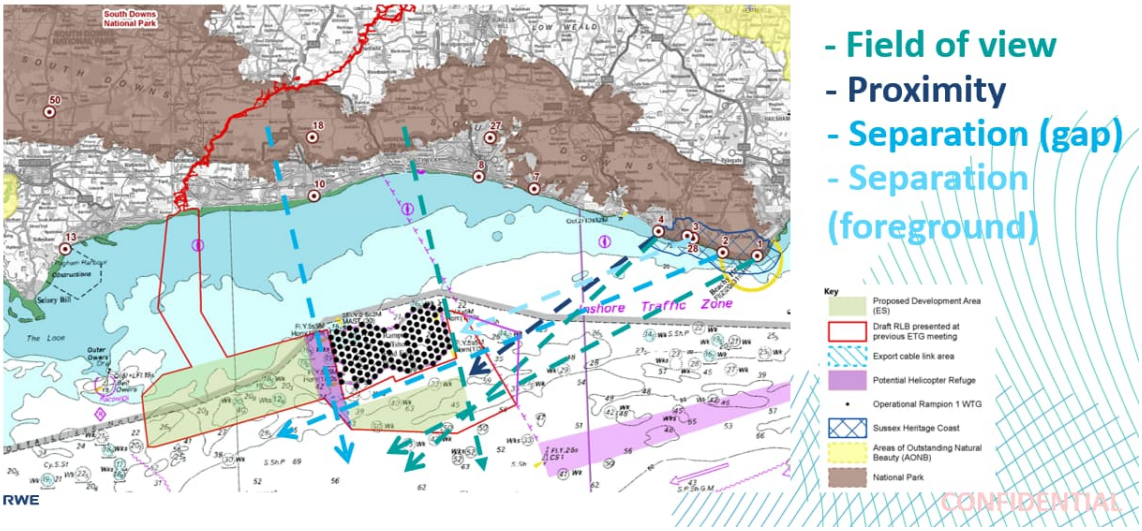
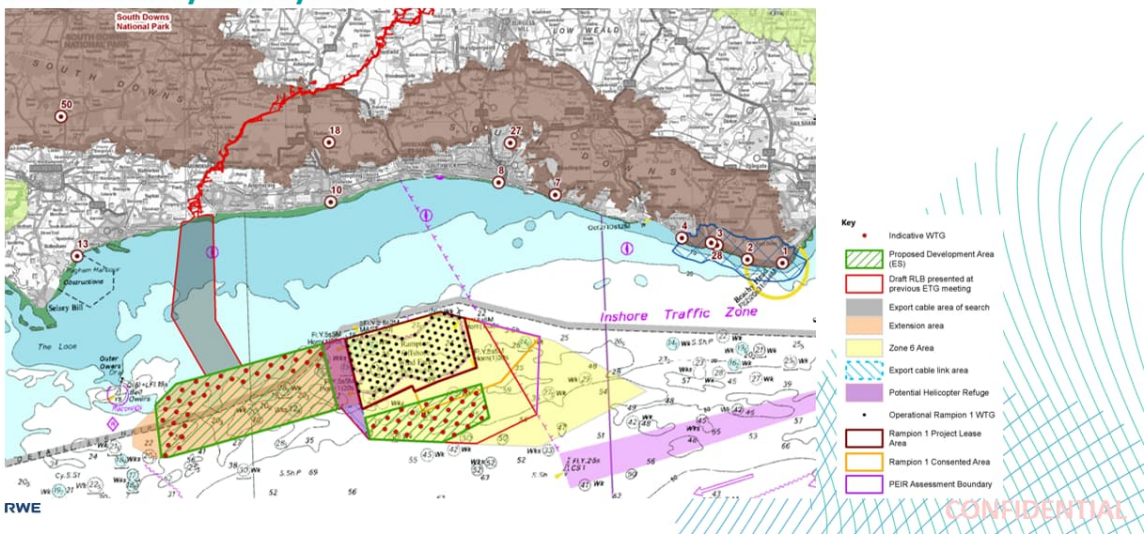
Key design principles (SLVIA)

Translating design principles into site boundary



Proposed development area

Site boundary and layout



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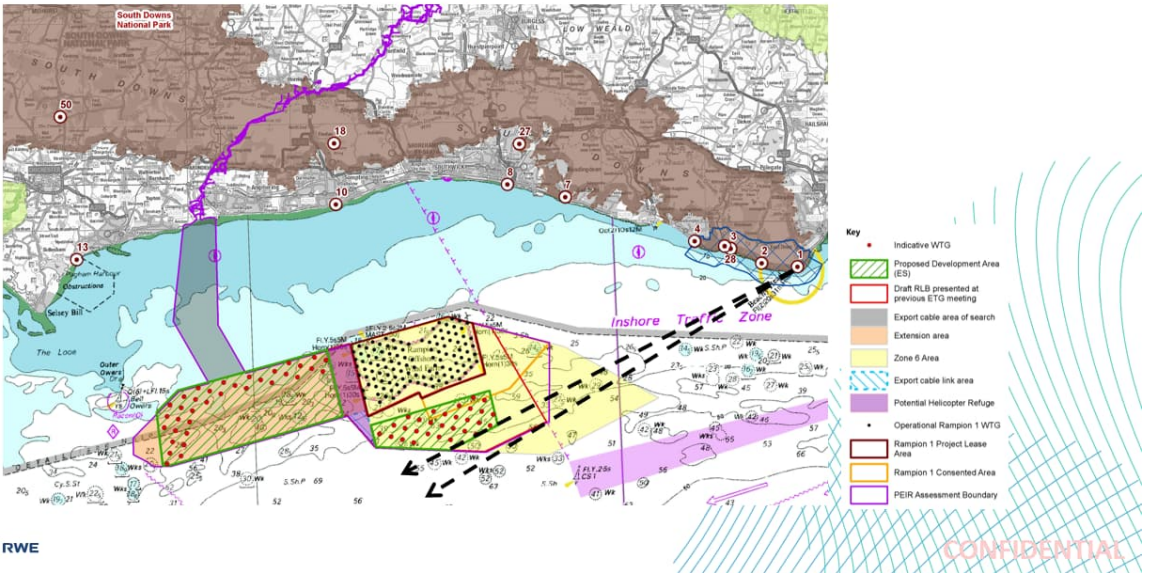
Field of view - VP1 Beachy Head



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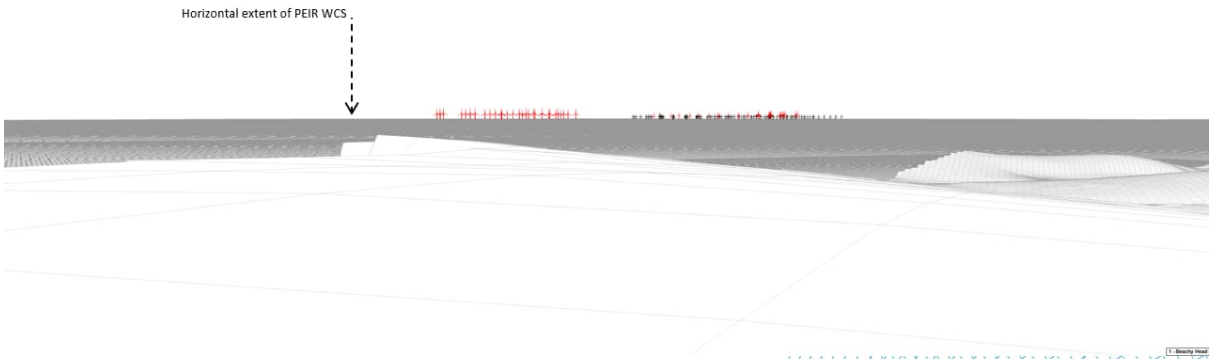
Field of view - VP1 Beachy Head



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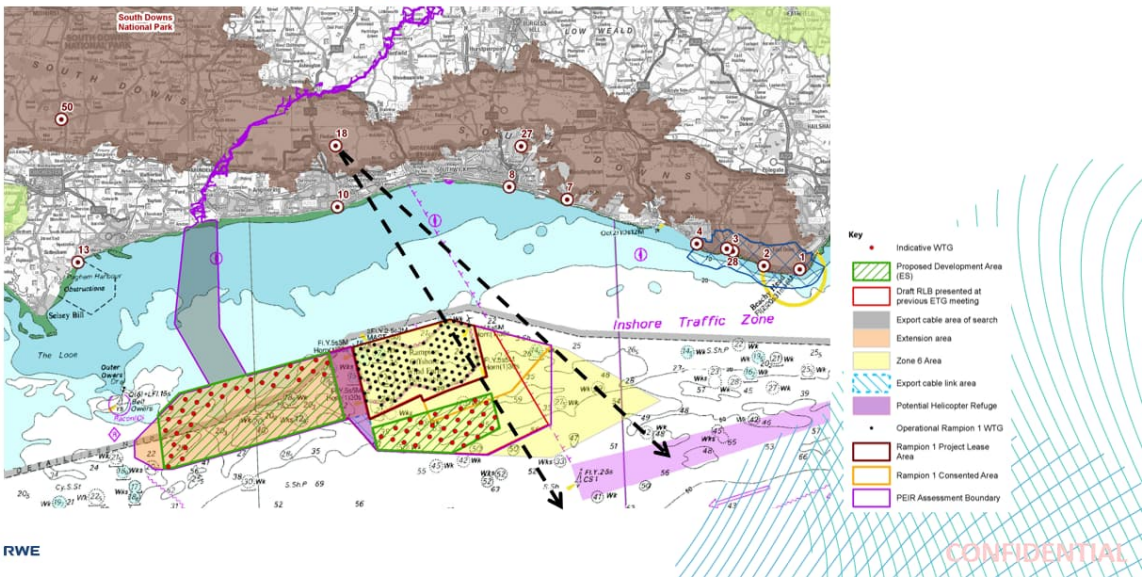
Field of view - Vp18 Cissbury Ring



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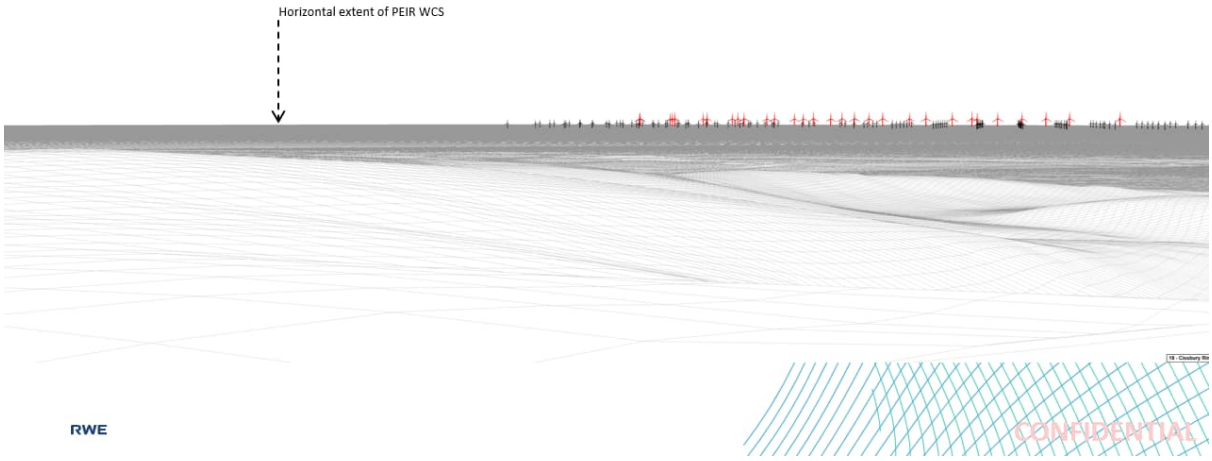
Field of view - Vp18 Cissbury Ring

VP18 Cissbury Ring



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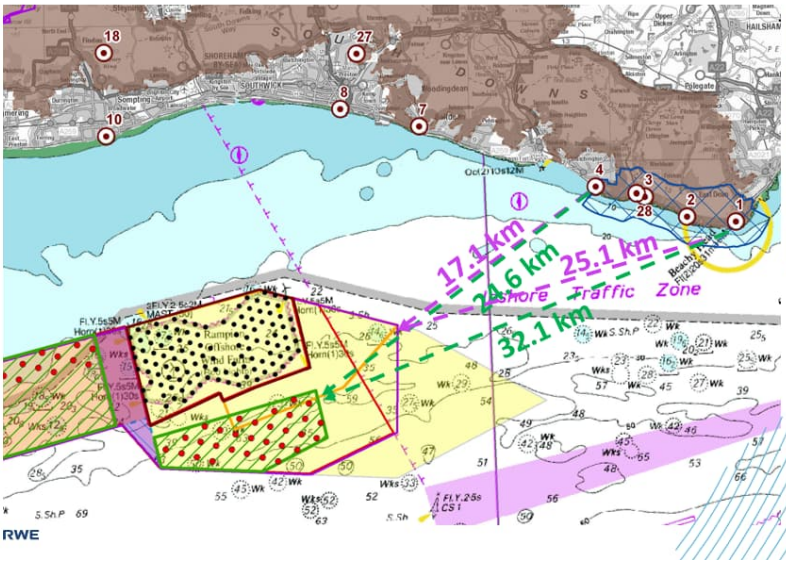
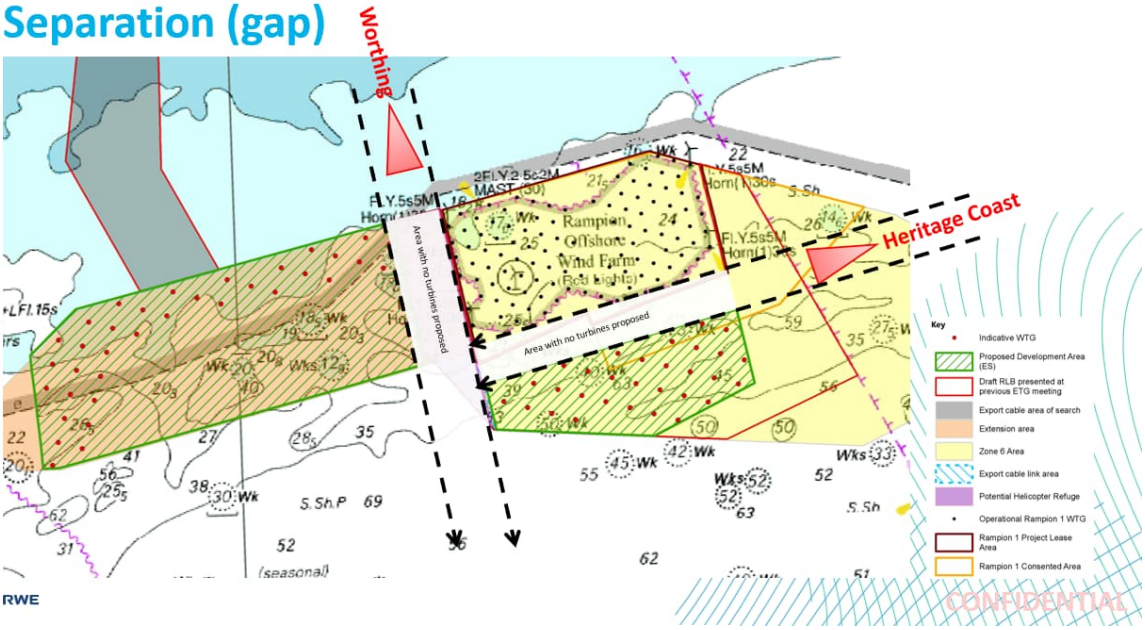
Proximity

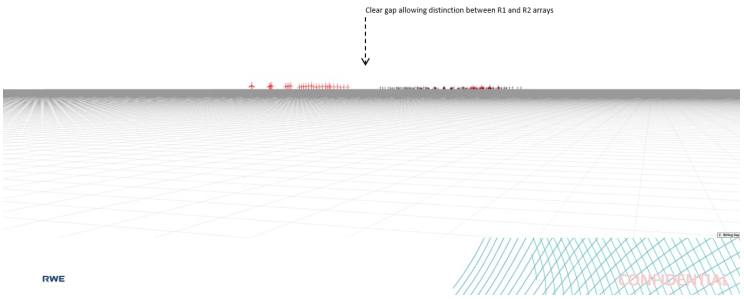


Viewpoint:	Distance (PEIR)	Distance (Proposed)
1 Beachy Head	25.1 km	32.1 km
2 Birling Gap	21.9 km	29.1 km
3 Seven Sisters	19.7 km	27.1 km
4 Seaford Head	17.1 km	24.6 km
7 Rottingdean	14.0 km	20.1 km
28 Cuckmere Haven	19.3 km	26.8 km

Separation (gap)



Separation (gap) - Vp2 Birling Gap



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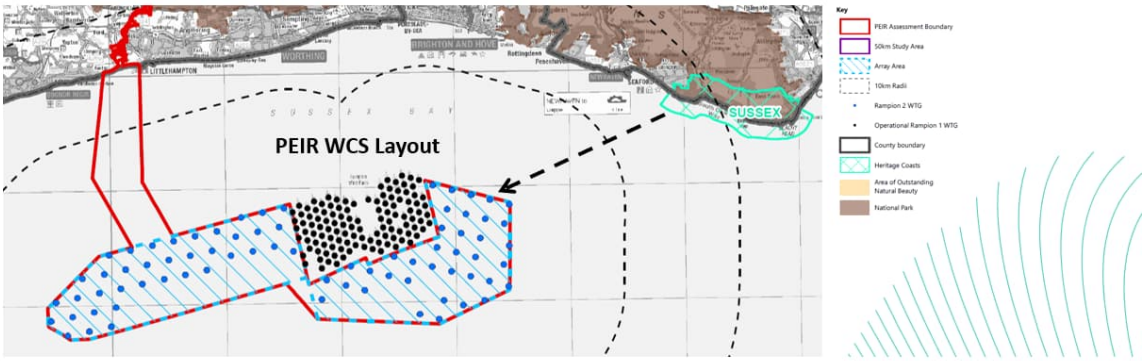
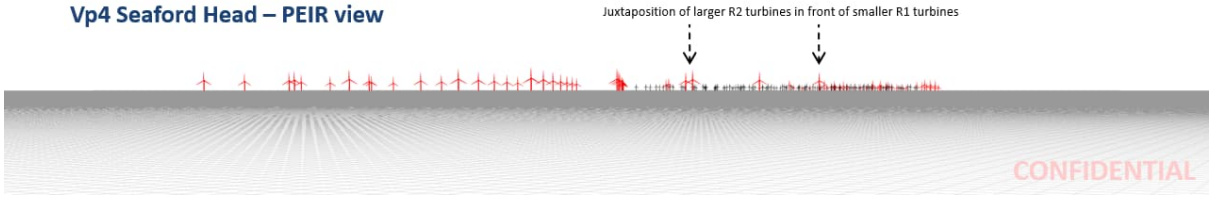
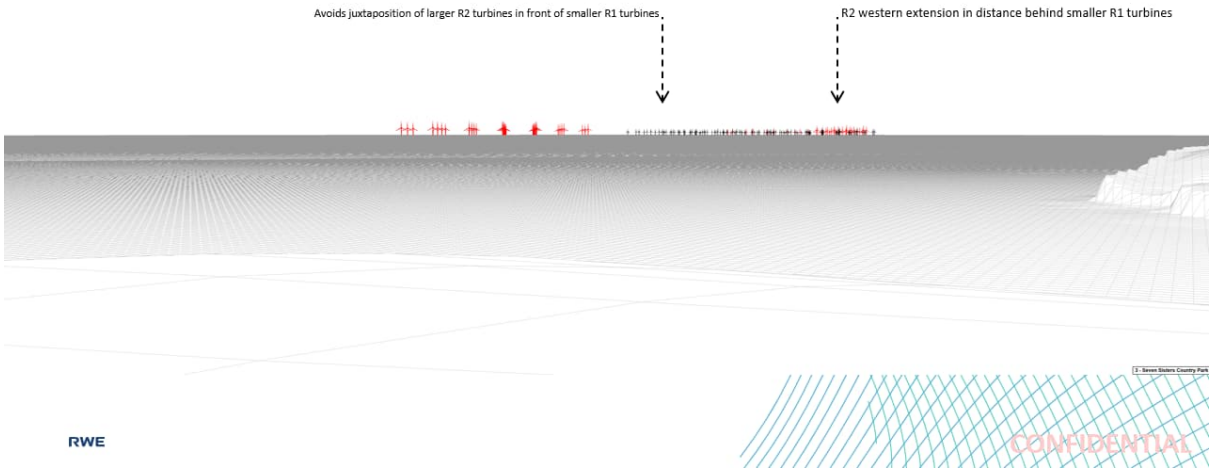
Separation (foreground)



Vp4 Seaford Head – PEIR view



Separation (foreground) - Vp3 Seven Sisters



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Annex 2
Alternative MDS layouts presented to ETG

MDS design development pre- PEIR stage

Selection of slides from Feb 2020 ETG meeting illustrating alternative MDS layouts

wood. RWE

Rampion 2 Offshore Wind Farm SLVIA
Natural England Meeting
25th February 2020

woodplc.com

open
optimised environments
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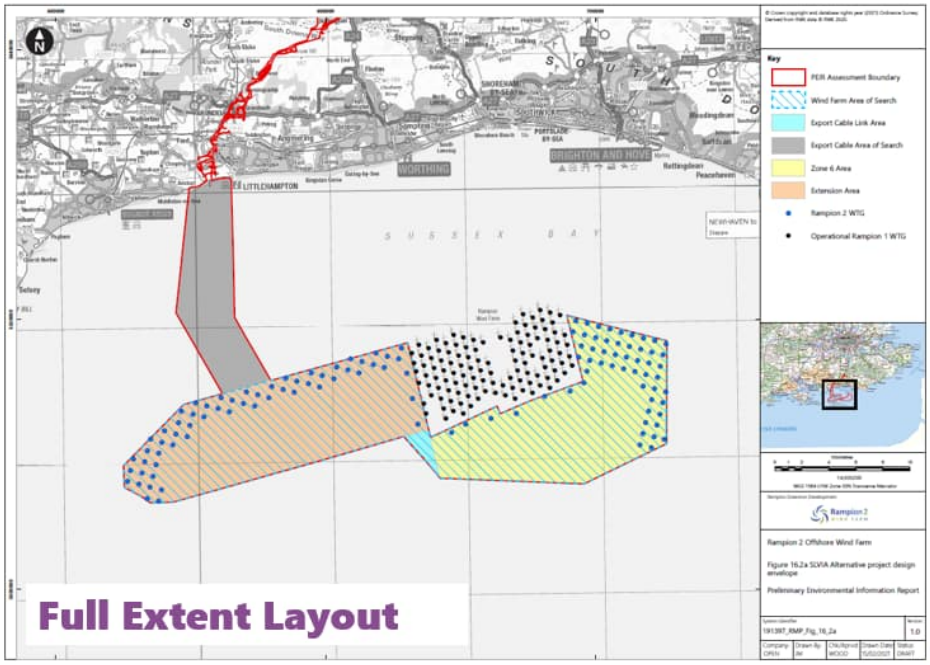
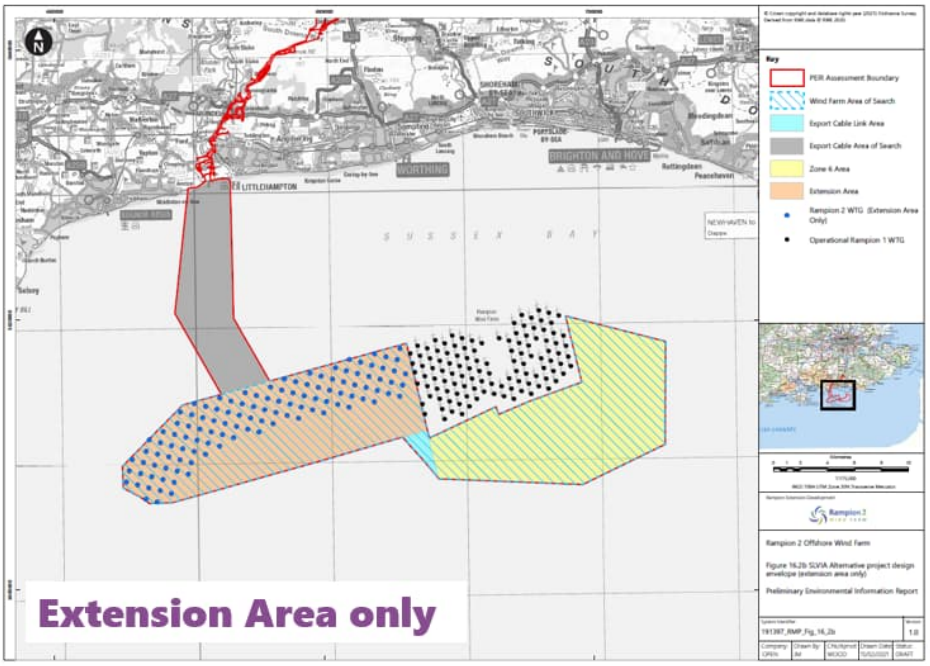
116 x 210m blade tip WTGs ('the 210m WTG layout')



116 x 210m blade tip WTGs ('the 210m WTG layout')



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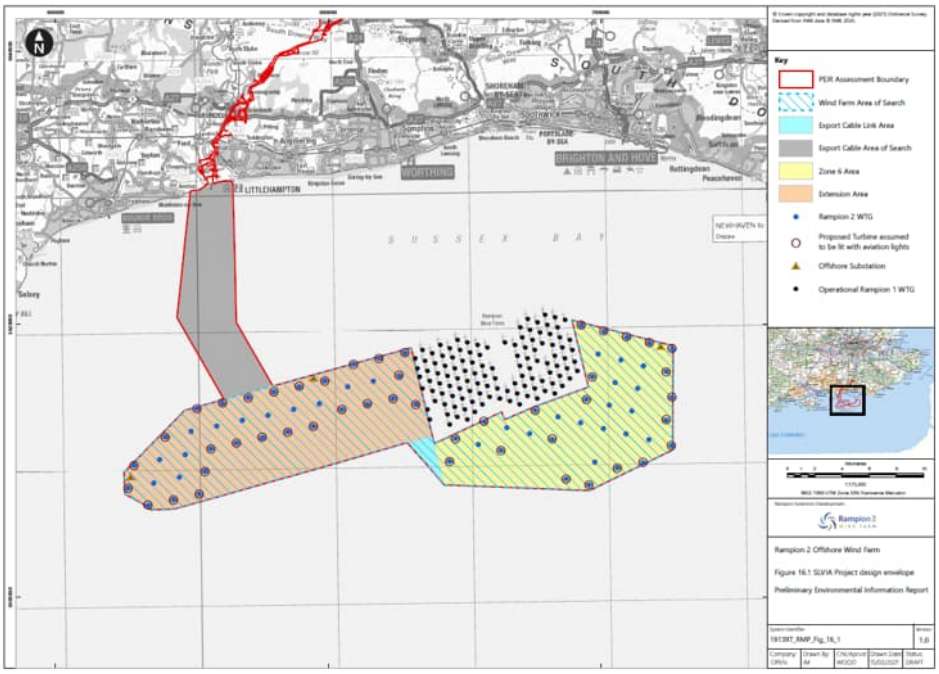
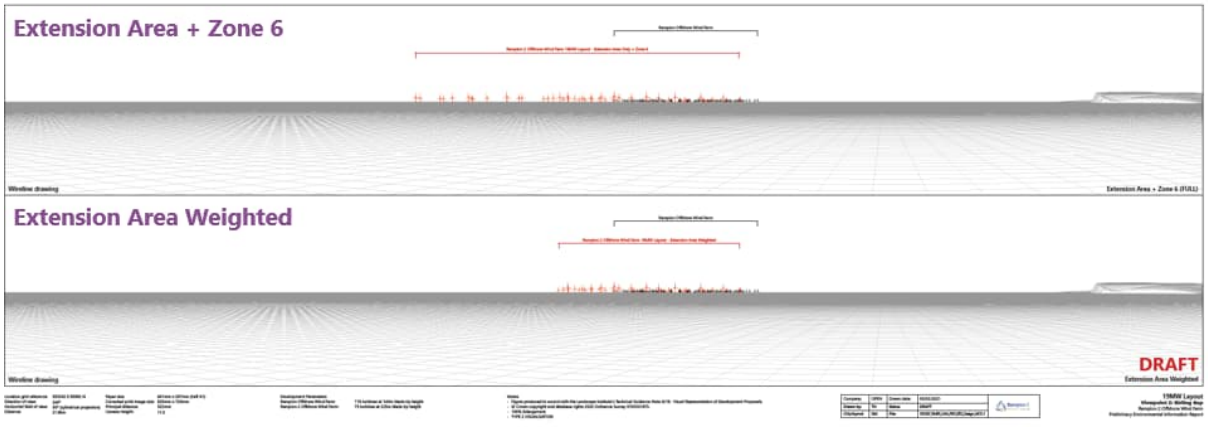
75 x 325m blade tip WTGs ('the 325m WTG layout')



Wirelines – Birling Gap (325m)



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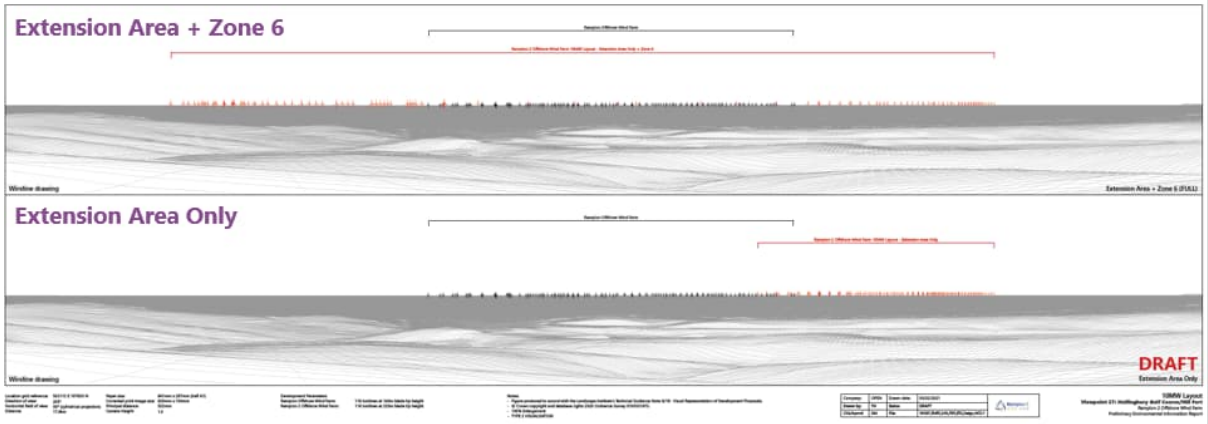
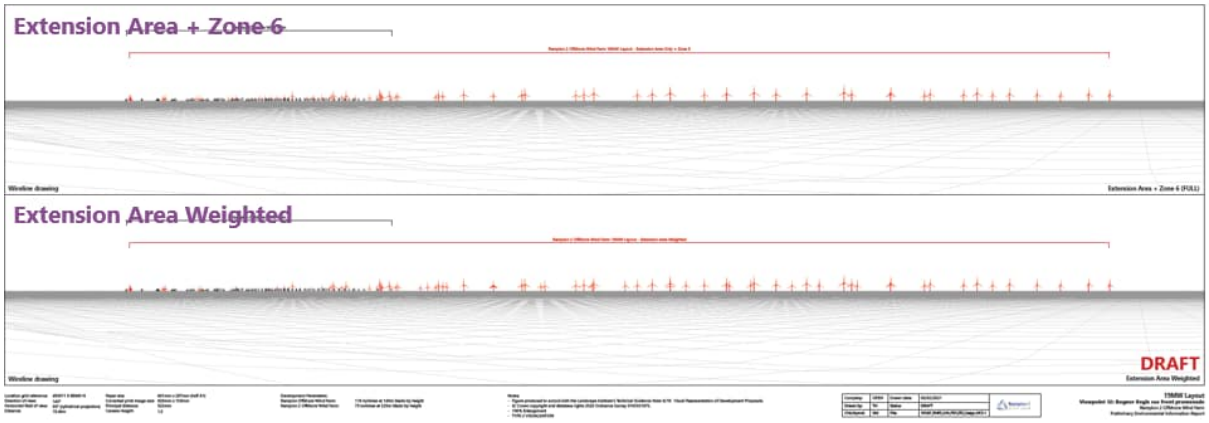
Wirelines – Hollingbury Hill Fort (Brighton) (210m)



Wirelines – Bognor Regis (325m)



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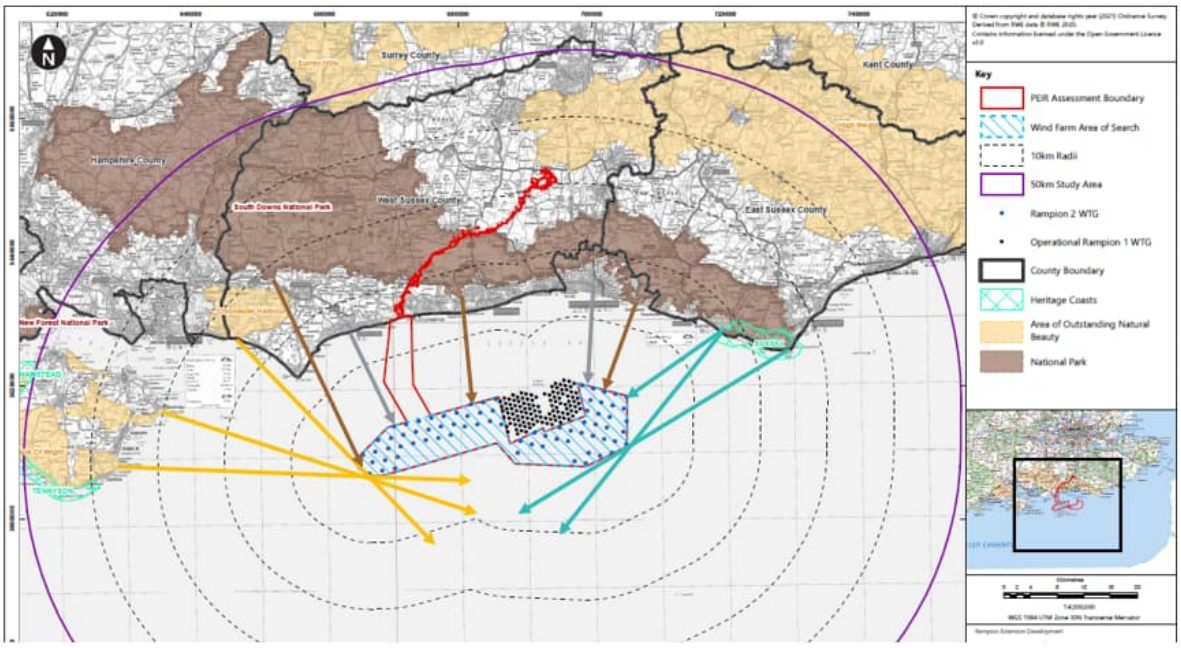
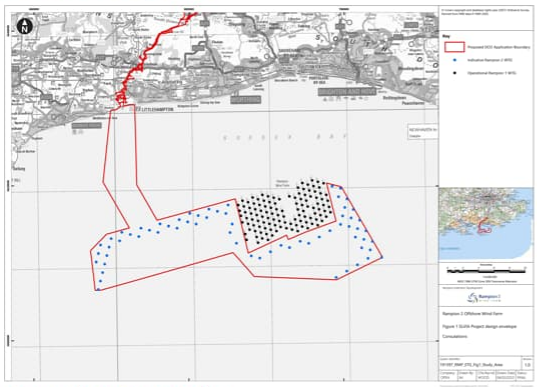
325m WTG layout - diagram of the WCS



MDS design development between PEIR and ES – initial ES MDS proposed

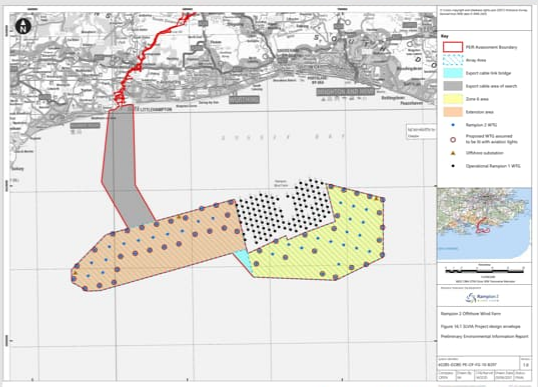
ES MDS Layout



Larger WTG 65 x 325m
WTG located around coastal perimeter as worst-case
1130m spacing, WTGs cover smaller footprint
Split equally between Zone 6 and Extension Area
WTGs aligned on NE to SW grid with R1 WTG rows

- Larger WTG scenario will be presented and assessed in the ES as a single, clear MDS.
- Smaller WTG scenario may also result in significant effects however these will be no greater than effects assessed for the MDS.

PEIR MDS Layout



Larger WTG 75 x 325m
WTG located around coastal perimeter as worst-case
1720m spacing, WTGs cover greater footprint

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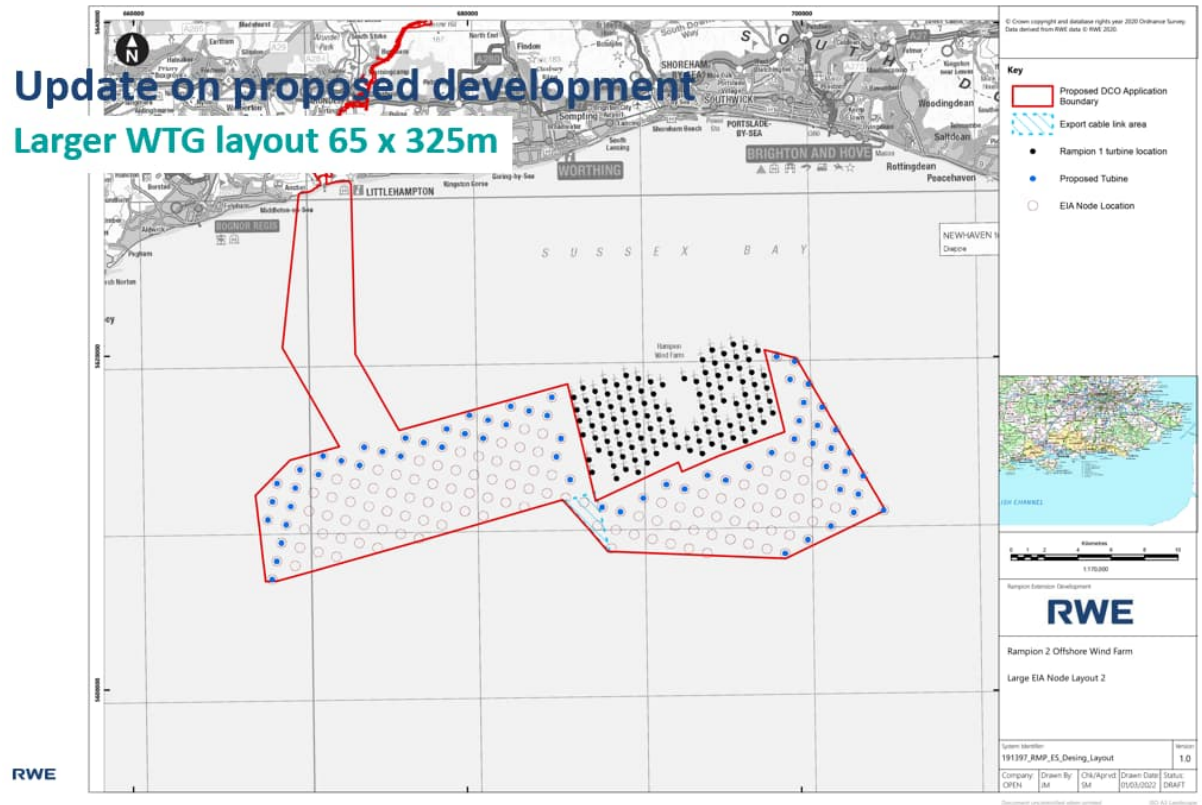
Update on proposed development

Larger WTG layout 65 x 325m



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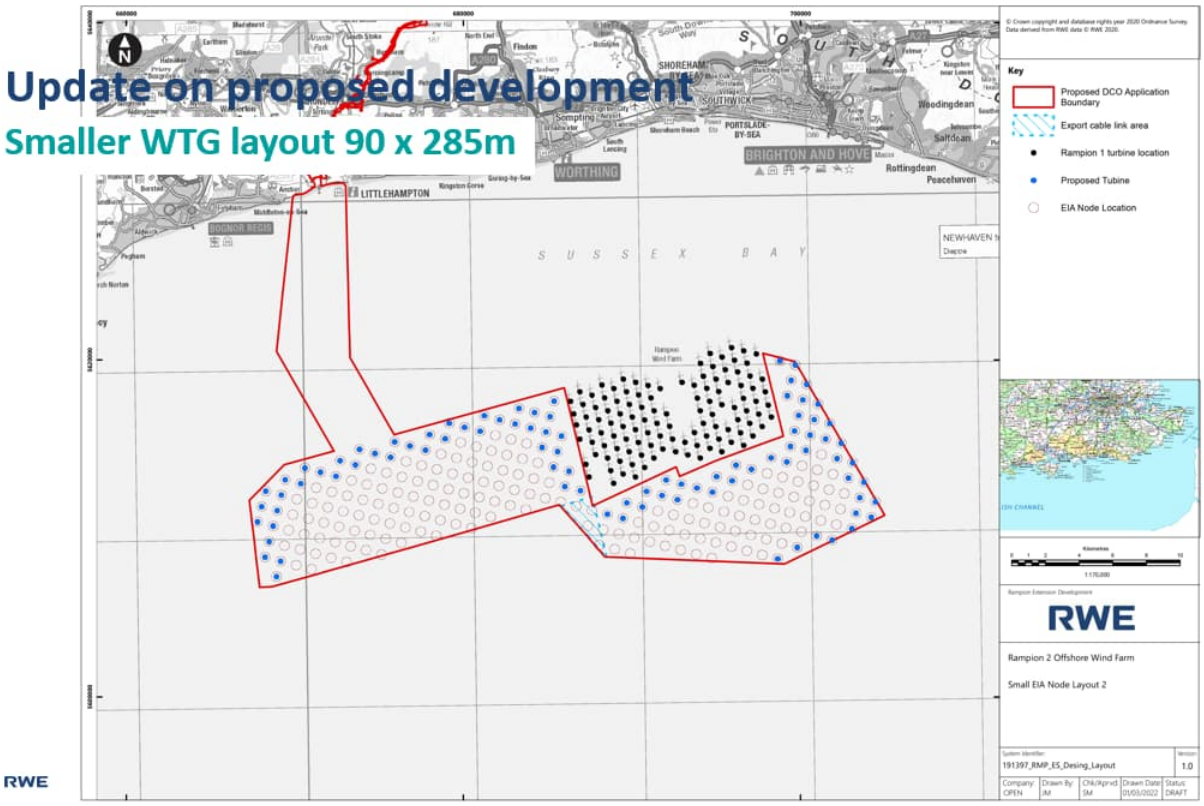
Update on proposed development

Smaller WTG layout 90 x 285m

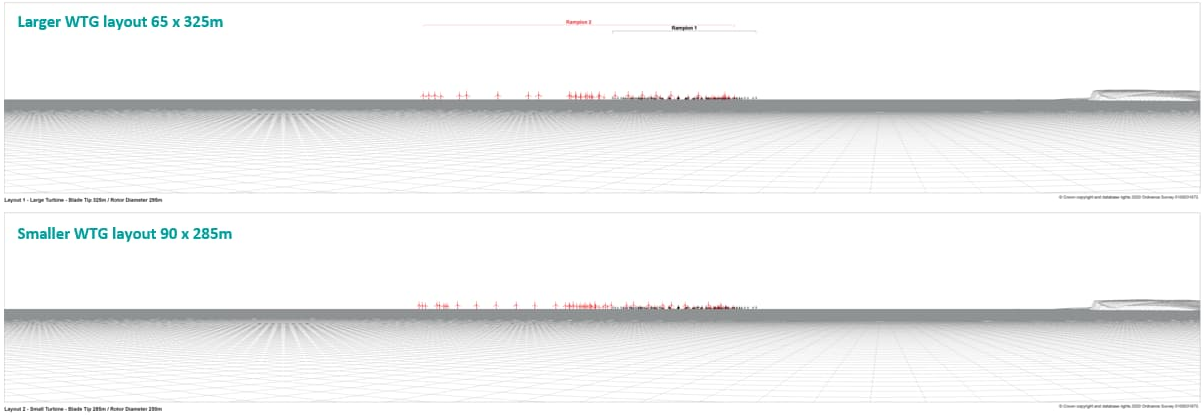


RWE

Update on proposed development

Viewpoint 2 Birling Gap

Comparison of larger and smaller turbine typology layouts

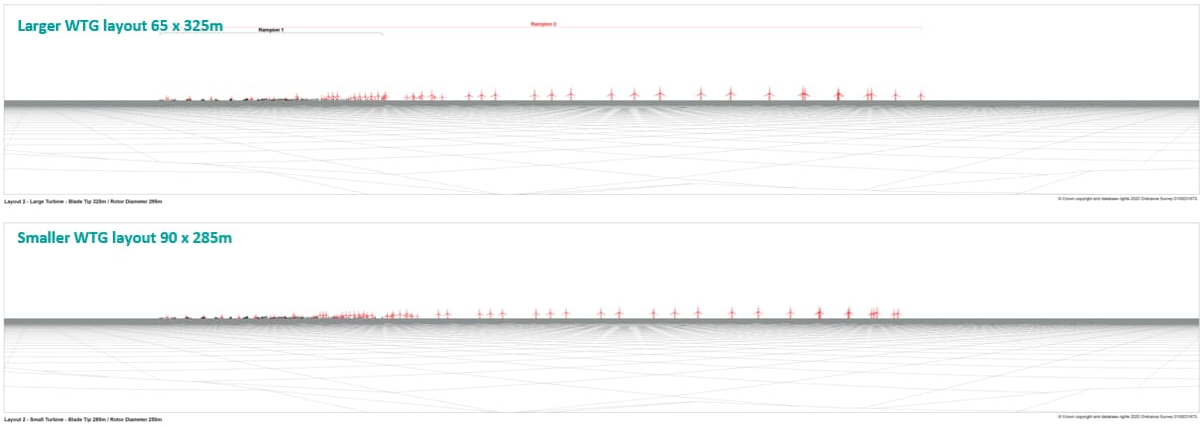


RWE

Update on proposed development

Viewpoint 13 Pagham

Comparison of larger and smaller turbine typology layouts



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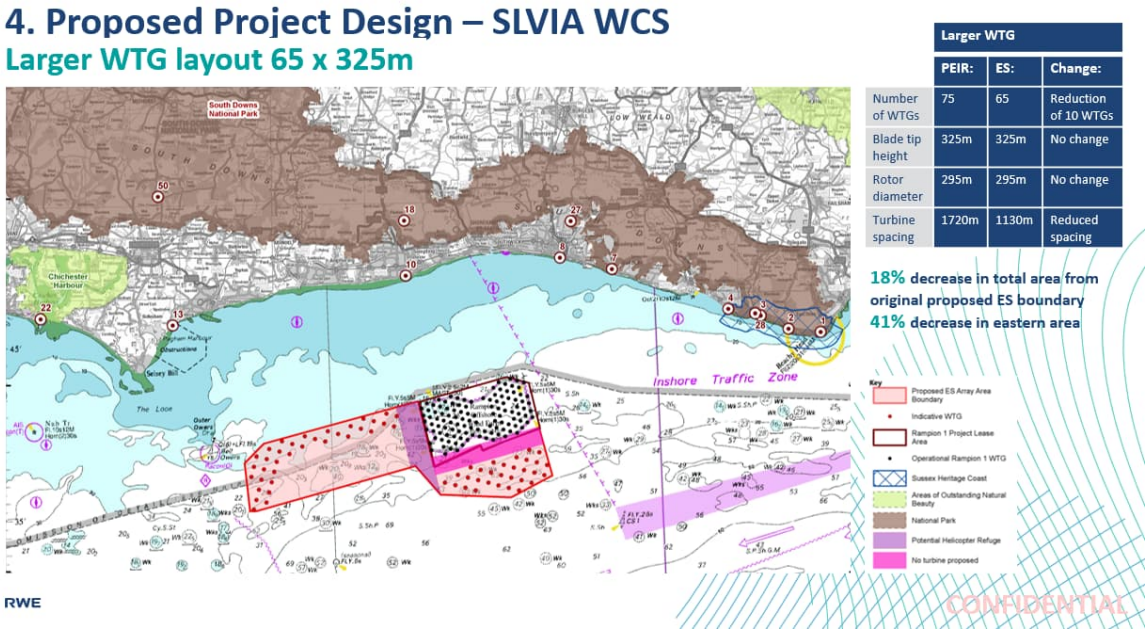
MDS design development between for ES – final ES MDS



Rampion 2
WIND FARM