Rampion 2 Wind Farm

Category 8: Examination Documents
Applicant's Response to Non-Prescribed Consultees' Written Representations

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Executive Summary

At Deadline 1 of the Examination for Rampion 2 Offshore Wind Farm Project, Interested Parties were invited to submit Written Representations and Post-hearing submissions following Issue Specific Hearing 1 (held 07 to 08 February 2024) into the examination. A total of eight Written Representations were received from Non-Prescribed Consultees.

Rampion Extension Development Limited (the 'Applicant') has taken the opportunity to review each of the Written Representations and the Post-hearing submission received from Non-Prescribed Consultees, this document provides the Applicant's responses and has been submitted for Examination Deadline 2.

1. Introduction

1.1 Project Overview

1.1.1 Rampion Extension Development Limited (hereafter referred to as 'RED') (the 'Applicant') is developing the Rampion 2 Offshore Wind Farm Project ('Rampion 2') located adjacent to the existing Rampion Offshore Wind Farm Project ('Rampion 1') in the English Channel.

1.1.2 Rampion 2 will be located between 13km and 26km from the Sussex Coast in the English Channel and the offshore array area will occupy an area of approximately 160km^2. A detailed description of the Proposed Development is set out in **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]**, submitted with the Development Consent Order (DCO) Application.

1.2 Purpose of this document

1.2.1 Interested Parties were invited to submit Local Impact Reports, Written Representations, and Post-hearing submissions at Deadline 1 (28 February 2024) following Issue Specific Hearing 1 (held 07 to 08 February 2024) to provide further information and to expand on views provided in Relevant Representations previously submitted in accordance with the Examination timetable in the Rule 8 letter **[PD-007]**. Please see below for a summary of the submissions received at Deadline 2, as categorised by the Planning Inspectorate:

- 6 submissions from Local Planning Authorities;
- 5 submissions from parish and towns councils and Members of Parliament;
- 6 representations from prescribed consultees;
- 28 representations from and on behalf of Affected Parties;
- 44 representations from members of the public or businesses; and
- 8 representations from non-prescribed organisations.

1.2.2 The Applicant has taken the opportunity to review each of the Local Impact Reports, Written Representations, and Post-hearing submissions received. This document provides the Applicant's responses to Non-Prescribed Consultees and has been submitted for Examination Deadline 2.

1.3 Structure of the Applicant's Responses

1.3.1 For ease of referencing and to facilitate future cross-referencing, the Applicant has included references for the Applicant's responses to the Local Impact Reports, Written Representations, and Post-hearing submissions received from other Interested Parties, as follows:

- Local Authorities (including both host and neighbouring authorities):

- Arun District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.44**));
- Brighton and Hove City Council (**Applicant's Responses to Brighton and Hove City Council Deadline 1 Submissions** (**Document Reference: 8.48**));
- Horsham District Council (**Applicant's Responses to Horsham District Council Deadline 1 Submissions** (**Document Reference: 8.45**));
- Mid Sussex District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.46**));
- South Downs National Park Authority (**Applicant's Responses to South Downs National Park Authority Deadline 1 Submissions** (**Document Reference: 8.47**)); and
- West Sussex County Council (**Applicant's Responses to West Sussex County Council Deadline 1 Submissions** (**Document Reference: 8.43**)).

- Parish Councils and Members of Parliament (**Applicant's Responses to Parish Councils and MP's Written Representations** (**Document Reference: 8.37**));
- Prescribed Consultees (as set out in Schedule 1 of the Infrastructure Planning (Application: Prescribed Forms and Procedures) Regulations 2010, noting that Parish Councils are also Prescribed Consultees) (**Applicant's Responses to Prescribed Consultee's Written Representations** **(Document Reference: 8.49)**);
- Affected Parties (Category 1, 2 and 3 Land Interests as identified in the **Book of Reference** **[PEPD-014]**) (**Applicant's Responses to Affected Parties' Written Representations** (**Document Reference: 8.51**));
- Members of the Public and Businesses (**Applicant's Responses to Members of the Public and Businesses' Written Representations** (**Document Reference: 8.52**))
- Non-Prescribed Consultees (this document: **Applicant's Responses to Non-Prescribed Consultee's Written Representations** (**Document Reference: 8.53**)).

1.3.2 Each section below includes responses to the submissions received from Non-Prescribed Consultees. Each response is identified in the relevant table:

- Constructive Heritage LLP: **Table 2-1**;
- Sussex Inshore Fisheries and Conservation Authority: Error! Reference source not found.;
- Sussex Wildlife Trust: **Table 2-3**;
- The Littlehampton Society: **Table 2-4**; and
- The Woodland Trust: **Table 2-5**.

1.3.3 Due to the size of some of these responses, the Applicant has responded to them in Appendices:

- CowfoldvRampion (Cowfold Residents' Action Group): **Appendix A**;
- Middleton on Sea Coastal Alliance: **Appendix B**; and
- Protect Coastal Sussex: **Appendix C**.

2. Applicant's Response to Non-Prescribed Bodies

Table 2-1: Applicant's Response to Constructive Heritage LLP [REP1-083, REP1-084]

Ref	Written Representation Comment	Applicant's Response
2.1.1	This representation largely concerns potential issues regarding sound generation during the life of Rampion 2, if allowed to go ahead as planned.	Noted, the Applicant has no further comments on this matter at this time.
2.1.2	As engineers, we use sound and acoustics in various ways to effect change in behavioural response and understand how high levels of sound (and certain frequencies) can affect the body and mind. This process is called psychoacoustics. Getting it wrong can be dangerous, indeed deadly, especially extreme high sound pressure or extended exposure levels beyond the threshold of pain (around 130-140dB re 20 µPa) and certain frequencies, such as high amplitude 7hz, the human body's resonant frequency.	Noted, the Applicant has no further comments on this matter at this time.
2.1.3	Understanding this, and as divers, there are serious concerns that the type of noise and noise levels that will be created during construction and operation have been underplayed. The single strike levels generated with today's construction methods are way in excess of mortality figures represented in the ES and other documents	Noted. The reasons for and responses to the comment that concerns have been underplayed are addressed in detail later in this document.
2.1.4	There is need for improved modelling, including vital sound propagation decay rates, which will give more specific indications of dissipation levels in water and in air and some idea of a safe underwater diving zone. No relevant information is available. Therefore it would not be safe to enter the water with non-specific or reliable levels of mitigation using a baseline SPL of 240 dB re 1µPa. The information from the MMO and this representation show that levels of noise pollution will carry for many miles around and dissipate much more slowly than suggested.	Modelling has been undertaken in relation to divers, and although there are no standard guidelines for noise impacts on humans in water, there is a prediction, using the detailed modelling undertaken, of discomfort/potential startle at approximately 3 km (unmitigated) from the pile at the commencement of piling (at which time the risk of startle to a diver is greatest). With the minimum noise mitigation attenuation of 6 dB applied this reduces to a distance of 1.3 km, see Section 4.4, **Appendix 11.3: Underwater noise technical report, Volume 4 [APP-149]**. This does not equate to nor should not be assumed to lead to hearing damage or any other injurious effects to divers. The noise level of 240 dB mentioned will not exist anywhere near a location where divers could be present. The **Outline Diver Communication Plan [APP-242]** includes details of exclusion zones and the diver communication plan (as secured by Part 2, Condition 11 (1) (h) Schedules 11 & 12 of the **Draft Development Consent Order [PEPD-009]**).
2.1.5	Speaking with divers in the water during piling construction of Rampion 1, extreme sound pressures were exerted on them at times which ensured divers leaving their survey areas quickly. If Rampion 2 gets permission, expect similar issues with much greater intensity due to extra levels of noise pollution generated by an unprecedented array of turbines so close to shore. There is the potential to lose a lot of aquatic diversity through destructive construction measures as well as the loss of public amenity to enjoy the underwater and coastal environment.	High noise levels are expected during piling and the degree of perceived noise will be highly dependent on how close the diving site is to the piling. Noise predictions presented in the assessment of noise on divers Section 4.4, **Appendix 11.3: Underwater noise technical report, Volume 4 [APP-149]** are based on midwater levels; they will be much lower at the surface. The **Outline Diver Communication Plan [APP-242]** includes details of exclusion zones and the diver communication plan and dive clubs will be notified of the potential for piling by a diving liaison officer (as secured by Part 2, Condition 11 (1) (h) Schedules 11 & 12 of the **Draft Development Consent Order [PEPD-009]**). The Applicant also refers Constructive Heritage to the detailed assessments of potential impacts to marine species arising from underwater noise provided in **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]**; **Chapter 9:**

Ref	Written Representation Comment	Applicant's Response
		Benthic, subtidal and intertidal ecology, Volume 2 [APP-050]; and **Chapter 11: Marine mammals, Volume 2 [APP-052],** in addition to the range of mitigation measures set out in the **In Principle Sensitive Features Mitigation Plan [APP-239]** and the **Draft Piling Marine Mammal Mitigation Protocol [APP-236]**.
2.1.6	The red flashing lights at night of Rampion 1 create a visual disturbance, something which, compounded by many extra miles of 325m high lighting, would create a feeling of being hemmed in by an electrical compound. Reminiscent of being in a prison camp with high, electrified walls, utterly destroying well being for those who live here.	The Applicant has committed to commitment C-266 "*During operation, and where visibility conditions permit, the intensity of aviation warning lights will be reduced to no less than 200cd (in Accordance with the Air Navigation Order 2016), subject to the availability of a commercial system.*" (as secured by Part 2, Condition 8 (5) Schedules 11 & 12 of the **Draft Development Consent Order [PEPD-009])**.
2.1.7	The highly important, perfect and natural kelp carbon sequestration project happening inshore in our waters. This ecosystem is at huge risk from piling sedimentation, the most significant opportunity for reducing carbon emissions naturally (natural capital, and no cost to the taxpayer) and a nationally significant infrastructure project of the highest tier. The coastline that would be affected by it has now begun to regenerate the highly important kelp beds, aided by professionals who monitor our seas to regularly update our communities. Kelp is one of the best sequesters of carbon on earth, roughly absorbing carbon 5-6 times faster than a tree. This is our absolute best opportunity for reducing carbon emissions in our environment, is a perfectly natural process and it carries no material cost whatsoever to implement (no petroleum based products, rare earth minerals, disturbance to the sea bed, fish, noise or even decommissioning). It even sustains and supports a myriad of life, one of the most diverse ecosystems on the planet. In comparison, an industrial wind farm of this size pollutes the area in various ways and has decades of operation before it pays off its carbon footprint.	All information relating to potential impacts on benthic ecology can be found in Table 9-16 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2 [APP-050]**. Relevant benthic subtidal and intertidal ecology embedded environmental measures, details specific measures that will be taken to reduce the environmental impacts. The magnitude of habitat disturbance relating to construction activities on benthic subtidal receptors (including kelp beds) is considered to be minor, indicating that the potential is for localised disturbance and/or loss of habitat that does not threaten the long-term viability of the resource. For a more detailed response to this point, please refer to Response 5.1.8 in the Applicants response to the MMO (**Table 2-2 of Applicant's Responses to Prescribed Consultee's Written Representations (Document Reference: 8.49)** The Applicant also refers Constructive Heritage to **Chapter 29: Climate change, Volume 2 [APP-070]**, which sets out the calculations of the carbon payback period for the Proposed Development and which identifies that the offshore wind farm will achieve a carbon net-positive status after around 10 months of operation.
2.1.8	At the Kelp Summit in 2022, it was evidenced through trials that kelp thrived better in low sediment areas, high amounts of sediment serve to stifle growth and can retard growth. A number of interested parties asked how much drilling material and sediment will be created by the applicant's proposal. The applicant told the organisers that they did not know. However, in the PEIR (page 75, Vol. 2 Chapter 9) the applicant stated that 2.9 million cubic metres of drilling fluid and sediment would be released into the environment…. including releasing carbon through the benthic layer trapped in the sea bed. It's also proposed to cut across at least one SSSI site (Climping) and South Downs National Park.	The Preliminary Environmental Information Report (RED, 2021) has now been superseded by the **Environmental Statement [APP-042 – APP-257]** and the maximum design scenario for suspended sediment concentration and deposition during the construction phase of the Proposed Development has been reduced to a total release of approximately 2,619,084m^3 of sediment and drill fluid in the proposed DCO Order Limits. Temporary localised increases in suspended sediment concentration and associated sediment deposition are expected from foundation and cable installation works and seabed preparation works (including sandwave clearance). The Applicant would like to point out that this is the maximum design scenario which has been assessed for the Proposed Development—this is a worst-case scenario across a total area total area of the Proposed Development of 255km^2 (255,000,000m^2). The maximum design scenario establishes an

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		upper limit and allows for flexibility of different turbine designs and construction methods. The impact of increased suspended sediment concentration and deposition from construction activities is expected to be short-term, intermittent and of relatively localised extent, the magnitude of the impact on the ecological receptors assessed (including kelp) is assessed as being minor. Further detail is provided in **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2 [APP-050].** For a more detailed response to this point, please refer to Response 5.1.8 in the Applicants response to the MMO (**Table 2-2 of Applicant's Responses to Prescribed Consultee's Written Representations (Document Reference: 8.49).** The closest proposed works to the Climping Site of Special Scientific interest (SSSI) where construction activity is to take place (Works No. 8 within the **Onshore Works Plans [PEPD-005]**) is in excess of 175 m from the boundary of the Climping SSSI. All closer works (including beneath the Climping SSSI) are proposed to be either underground (i.e. the Horizontal Directional Drill (HDD)) secured through Works Nos. 6 and 7 of the **Draft Development Consent Order [PEPD-009]** or pedestrian traffic only (e.g. monitoring of the drill head path) restricted by the **Outline Construction Method Statement [APP-255]**, secured through Requirement 23 of the **Draft Development Consent Order [PEPD-009]**. Under all normal circumstances, indirect effects on the SSSI such as dust deposition and pollutant losses can be effectively managed through the **Outline Code of Construction Practice [PEPD-033]** (including for example commitments C-24, C-77, C-105, C-107, C-143, C-149 and C-207) secured through Requirement 22 within the **Draft Development Consent Order [PEPD-009]**.
2.1.9	Therefore, at this time, the Rampion 2 proposal would create a highly negative impact on our environment for many years, change/diminish/destroy our already fragile but burgeoning ecosystems and reduce/delay the important kelp regrowth (something not only our community is in support of, but important enough for Sir David Attenborough and the BBC to document). Kelp is protected under the OSPAR Convention, 2007 Annex V. We recommend an alternative, more efficient site, in an area of greater average wind capacity (eg. Dogger Bank) or much farther away, (respecting the European Convention on Landscapes (ECL) and OESEA guidelines) to reduce the impact on the community and aquatic environment.	The Applicant refers Constructive Heritage to its response to **reference 2.1.7** in respect of the assessment of impacts to benthic ecology. With respect to siting, the Proposed Development is sited in a location which is suitable for constructing an offshore wind farm and has a sufficient wind resource to make it viable. The operational Rampion 1 project demonstrates the viability siting offshore wind farms in the general area along the Sussex coastline. The Proposed Development is anticipated to produce the annual equivalent of that needed to supply over 1 million homes. of the Proposed Development. In regards The Applicant also notes the comment regarding the ECL and would respond that there have been three versions of the Offshore Energy Strategic Environmental Assessment (OESEA), since 2009. None have proposed any form of exclusion zone for nearshore wind farms such as Rampion or Rampion 2. Furthermore, the Government was clear in its responses after consultation on OESEA3, that it did not intend to even imply a notional exclusion zone.
2.1.10	No visual representation of the turbine array day or night along our coast were presented to the public, but hidden away in documentation. Consider an essential aspect of the project would be to share the	Photomontages in relation to seascape, landscape and visual impact assessment were provided in **Chapter 15: Seascape, landscape and visual**

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	significant changes the proposal would cause. There are many gaps in the consultation information. The lack of specifics was seen as a ruse to prevent a huge outcry from people realising what an incredible eyesore and detriment this would be. The Sussex Heritage coastline is as iconic as the White Cliffs of Dover, an archaeological treasure as well as an important visual receptor for those who live here and visit, to enjoy the undisturbed horizon, playing a fundamental role in the well being of our community.	**impact assessment, Volume 2** of the ES **[APP-056]** in line with best practice guidance (The Guidelines for Landscape and Visual Impact Assessment). Photomontages were also presented during statutory consultation events and were published on the Rampion 2 website (RED, 2021). The project has been subject of multiple rounds of iterative consultation with local people and environmental authorities. This process, and evidence of regard had to consultation responses, is set out in the **Consultation Report [APP-027]**. The Applicant would highlight the substantial reductions in the extent of the array area of the Proposed Development, most significantly to the eastern part, which focused on addressing responses to consultation and significant effects to the Heritage Coast. Full details of these are presented in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**.
2.1.11	REQUEST FOR FURTHER INFORMATION BASED AROUND CURRENT DATA Would like to see more accurate modelling based around current noise levels.	Detailed state-of-the-art underwater noise modelling for piling has been presented in **Appendix 11.3: Underwater noise technical report, Volume 4 [APP-149]**. This modelling used was undertaken using the INSPIRE underwater noise modelling software, which is dedicated to underwater noise from impact piling, is approved by the MMO, who have raised no concerns with the methodology, and is continually updated with real-world data.
2.1.12	Those presented previously are misleading. They do not show propagation of noise levels of 240 dB re 1µPa (peak), cumulative and associated decay rates, to conclude definitively that the operations can be mitigated enough to produce negligible effects on sea life as stated in the ES. The modelling presented in the application show mortality levels around the low 200s dB re 1µPa, frequently 207 dB SELss is mentioned for certain receptors. During the Planning Inspectorate hearing on noise levels, the applicant's representative admitted 240 dB re 1µPa.	Table 3-6 of **Appendix 11.3: Underwater noise technical report, Volume 4** of the ES **[APP-149]** shows the predicted apparent source levels (i.e. theoretical noise level at 1m from the source – theoretical because the sound field is highly complex near to a noise source such as a pile). This is approximately 240-243 dB SPLpeak, as referenced by the applicant's representative during the Issue Specific Hearings.
2.1.13	If mitigation cannot reduce these levels sufficiently, and evidence decay rates that show safe reduction at receptor sites, then there is great risk that much life could be subjected to noise levels in excess of mortality rates. It would be unsafe for divers to enter the water during construction activities for the same reasons.	The levels are likely to be lower at any one position in reality as this energy will be distributed along the length of the pile. Simple calculations would suggest that under a worst-case scenario, 240 dB SPLpeak would in practice occur less than 10 m from a pile being driven. These levels would not occur anywhere near a dive site. To avoid confusion, 207 dB SPLpeak and 207 dB SELcum (not SEL_{ss}) are used as thresholds for potential mortal injury in some species of fish. It should be noted that 207 dB SPLpeak is derived from guidance in Popper et al. 2014, not as an absolute value but always "greater than"; a suitable precise value could not be determined but it is some level more than 207 dB SPLpeak and so this quantity should not be assumed to equate to mortality.
2.1.14	It cannot be emphasised enough the need for evidence of suitable and efficient mitigation (which does not seem to be capable of reducing the noise levels to the recommended MMO numbers) based on the instantaneous peak piling noise of 240 dB re 1µPa.	The respondent confuses the different noise metrics in use in the assessment. The SPLpeak levels (e.g. 240 dB SPLpeak, i.e. the apparent source level) should not be used to compare with SELss (e.g. 135 dB SELss, not SPL). The explicit purpose of the underwater noise modelling that has been undertaken by the Applicant is to show the decay of sound levels over distance. The presence

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	Without revised modelling showing decay of higher sound levels over distance, those generated could be in excess of safe levels for aquatic life or humans underwater, for many miles. These levels could be extremely dangerous to aquatic life and humans. The applicant needs to evidence both mitigation specifics to achieve these levels, including max SPL of 135 dB re 1µPa (MMO recommendation), and ensure these levels are adhered to during construction and operation. There has been no modelling of noise levels generated during operation, above and below the waterline which include infrasound and how these levels will affect the environment long term. There needs to be reduction in noise levels in all aspects of the project. If evidence can show achievable safe levels, ensure these levels will not be exceeded, for the safety of all concerned. If the applicant cannot be seen to meet the levels set out by the MMO then the application should be refused on these grounds alone.	of 240 dB is not shown as this is of the order of the "source level", and thus could only occur directly adjacent to the pile at maximum blow energies. Predictions of underwater noise for operation are given in Section 5.2, **Appendix 11.3: Underwater noise technical report, Volume 4** of the ES **[APP-149]**. Infrasound has not been identified as a stressor by any statutory nature conservation body nor are 'safe' levels available in this context. Where scientific literature has identified suitable and relevant noise thresholds or criteria, these have been included in the assessment. It is implied that 135 dB SELss (not SPL) must not be met at any time or place in the water during piling. This misunderstands the MMO's recommendation, which related specifically to impacts on fish in the Kingmere Marine Conservation Zone. It is only a recommendation and has not been agreed. Further information on this matter can be found in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**, which is secured in Part 2, Condition 11 (1) (k) Schedules 11 & 12 of the **Draft Development Consent Order** **[PEPD-009]**.
2.1.15	Why are the JNCC not statutory consultees? They have solid guidance on noise levels and protected species and responsibility in the 'offshore' environment. Confusing. As the 'inshore' wind farm (8-12nm) abuts the 12nm offshore limit (and therefore any disturbance from inshore would affect offshore), should this not have triggered/engaged the JNCC as Statutory Consultees, as pollution of all kinds including noise will affect the area covered by the JNCC's remit?	The Joint Nature Conservation Committee (JNCC) has delegated its role as the SNCB for offshore renewable energy projects (wave, wind and tide) in English offshore waters, outside 12nm, to Natural England. This means that all provision of advice on renewable energy projects in inshore and offshore waters, adjacent to England (0- 200nm), is provided by Natural England rather than being split between JNCC and Natural England at the 12nm boundary.
2.1.16	It seems the JNCC should be consulted. Not doing leaves a gap in the process and sets the incorrect presumption that life will only be affected within 8-12nm, not outside, almost if a magic wall will prevent any issues leaking out. JNCC guidelines should be considered and actioned along with other Statutory and other representations.	The Applicant refers Constructive Heritage to its response to 2.1.15 above.
2.1.17	**From the Marine Management Organisation** Chapter 11, Marine Mammals 4.7.11 In paragraph 11.9.42, "the results of the underwater noise modelling have been misinterpreted, and it is incorrect to state that "to be at risk of auditory injury, an animal would have to stay within the immediate vicinity of the noise source for 24 hours. This is considered unrealistic and therefore, the risk of auditory injury to marine mammals from these activities is considered to be de minimis". The underwater noise assessment (presented in Appendix 11.3) concludes that for non-impulsive (or continuous) noise sources, any marine mammal would have to be less than 100 m from the continuous noise source at the start of the activity, in most cases, to acquire the necessary exposure to induce PTS as per Southall et al. (2019). This is because the noise assessment assumed a fleeing animal receptor. Furthermore, the noise assessment assumed that non-continuous sources were operating for a worst-case of 12 hours in any given 24-hour periods apart from vessel noise (which was assumed to be present for 24 hours). Thus, Chapter 11 should be corrected accordingly."[1] [1] 1https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117/EN010117-000477-20231106_Rampion_2_MMO_Relevant_Representation%20(002)_Redacted.pdf	This has been covered in responses to the MMO's Relevant Representation. (Table 2-2 of **Applicant's Responses to Prescribed Consultee's Written Representations** **(Document Reference: 8.49)**.

Ref	Written Representation Comment	Applicant's Response
2.1.18	**Recommendation to conduct the underwater modelling again based on current data in line with MMO guidelines**. The independent underwater acoustic assessment presentation (Thrown To the Wind, by filmmaker Jonah Markowitz) stated that any whale within half a mile would instantly and irreversibly lose their ability to hear. The excessive sound pressure from the hammer blows would render it completely deaf. One would presume that this would also have a similar or greater effect on any other sea creatures (i.e. teleost, elasmobranch species) in the vicinity with similar receptors, especially ones more delicate who could not stand the protracted noise levels, habitat displacement or be able to move far enough away to make a difference.	The referenced "acoustic assessment presentation" is a YouTube video that misunderstands and misrepresents, or presents without evidence, many potential concerns associated with offshore wind. In "Thrown to the Wind, Part 2" (link below), the following statement is made: "*Any whale within half a mile of the pile driving would suffer immediate and permanent hearing damage*". There is no evidence to support this statement.
2.1.19	Seahorses are a protected species, it is an offence to disturb or destroy any seahorse or habitat. Seahorses are all along the Sussex coastline. Please see relevant representations on seahorse habitat locations. There are also cetaceans, a European Protected Species, whales, and porpoises, in the Sussex Bay. Please refer to Chapter 6, Attachment 2 for more detail.	Noted, the Applicant has no further comments on this matter at this time.
2.1.20	Between Autumn 2023 and February 2024 two whales (Beaked, Minke) stranded and died on the shores to the west of Rampion 1 and directly in front of the proposed site for Rampion 2, so they are travellers in these waters. It is common knowledge that cetaceans can be profoundly affected by construction and operational noise arising from wind turbines in the sea. **Sound can be affected by many things underwater but roughly travels around 1500m per second. This is 4 times faster than on the surface**. Sound levels underwater, though affected in various ways by temperature, salinity, absorption into the sea bed, reflection and refraction, dissipate much more slowly.	The Applicant agrees that minke whales are commonly present in the area, and as such this species was included in the impact assessment in **Chapter 11: Marine mammals, Volume 2** of the ES **[REP1-004]**. In August 2023 a northern bottlenose whale stranded at Rustington/Littlehampton in Sussex. As far as the Applicant is aware, the cause of death is not known. Northern bottlenose whales (and other beaked whales) are not considered to be common in the area, and as such were not included in the impact assessment.
2.1.21	Looking at potential mitigation tools and how many decibels could be reduced, there does not seem that a combination of current measures can successfully reduce the levels to a safe operating level according to the MMO's recommendations of **135 dB(A) re 1 µPa**	This appears to imply that 135 dB SELss (not dB(A)) must not be met at any time or place in the water during piling. This misunderstands the MMO's recommendation, which related specifically to impacts on the Kingmere Marine Conservation Zone. Further information on this matter can be found in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**, which is secured in Part 2, Condition 11 (1) (k) Schedules 11 & 12 of the **Draft Development Consent Order** **[PEPD-009]**.
2.1.22	Potential noise levels during construction would be way in excess of Marine Management Organisation or other precautionary guidelines as this is a level of noise pollution currently unmitigable with today's tools such as bubble screens, or other measures, when working efficiently in calm waters. Given that this recent (independent) measurement of 241 dB(A) re 1 µPa was including a level of mitigation, (confirmed as being correct for a 13.5m mono-pile by the applicant's representative though it was not asked at the time whether this was mitigated, to his understanding) this sonic blast wave of noise and the way it conducts through the water would make the area for miles around at the very least unimaginably disturbing to mammals and other aquatic life during the construction phase, remove ecological diversity and minimise life around the pilings. It would make the sea potentially harmful to divers for miles around.	The Applicant confirms that this level is unmitigated, and, as noted above, this level could only occur immediately adjacent to the pile. This would also only occur under the maximum hammer energy which has been used for the worst-case scenario used in the assessment and may not be used in practice. **Chapter 11: Marine mammals, Volume 2** of the ES **[REP1-004]** assesses impacts caused from disturbance caused by piling noise. Following the implementation of the embedded environmental measures set out in Table 11-14, no significant effects are predicted to occur to any of the species assessed.
2.1.23	The construction would be too close to the Marine Conservation Zone of Kingmere Rocks as the excessive energy created would not attenuate enough prior to entering the MCZ.	The Preliminary Environmental Information Report (Rampion Extension Development Limited (RED), 2021) has been superseded by the **Environmental Statement** **[APP-042 – APP-257]**.

Ref	Written Representation Comment	Applicant's Response
	- 4.7.8 "MMO notes that some of the language and statements presented in this report are misleading and unsubstantiated. the MMO does not agree that the resulting predictions are "highly precautionary and very unlikely to be realised". - 4.7.9 As raised during the PEIR consultation, the information presented in section 2.5.3 onwards (TTS Assessment) only demonstrates what is not known about the significance of TTS – there is no evidence presented to confirm that it isn't significant, only conjecture. One could equally argue that at lower received sound levels, animals are less likely to flee (see Figure 2-2 on page 24), and so proportionally more likely to induce TTS than this assessment suggests. The TTS/PTS assessment seems to consider only an animal fleeing directly away from the source, whereas Fig. 2-2 demonstrates that even at received SELss of 160 dB, around 10% of animals will not flee, so there are uncertainties which tend toward underestimation of risk here too. 4.7.10 In the ES, the sensitivity of all cetaceans to PTS-onset is assessed as Low. In the PEIR, all cetaceans were originally assessed as having a 'Medium' sensitivity to PTS. However, it was raised by MMO that the consultant had not demonstrated that PTS would have merely a medium risk, only that there is uncertainty about how significant PTS may be for individual animals. Until, and unless, empirical evidence can shed light on whether this opinion holds water, the precautionary principle will continue to apply. Thus, it is recommended that cetaceans should be assessed as having a high sensitivity to PTS."	Detailed underwater noise modelling has been undertaken focusing specifically on this MCZ. This can be seen in **Appendix 8.3: Underwater noise study for sea bream disturbance, Volume 4** of the ES **[APP-134]**. In addition to this, a suite of mitigation measures proposed to reduce impacts on the Kingmere MCZ are set out in the **In Principle Sensitive Features Mitigation Plan [REP1-012],** which is secured in Part 2, Condition 11 (1) (k) Schedules 11 & 12 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2). **Regarding TTS:** It was agreed with Natural England and The MMO that a full assessment of TTS was not required. Natural England and the MMO requested that TTS impact ranges and number of animals with impacted areas be presented, but that an assessment of significance or magnitude was not required. The impact assessment for marine mammals followed this advice. **Regarding PTS:** The PEIR lists cetaceans as having a Medium sensitivity to PTS. The definition of Medium sensitivity at PEIR was: "*Ability to adapt behaviour so that reproduction rates may be affected but survival rates not likely to be affected. Some tolerance – Effect unlikely to cause a change in both reproduction and survival rates. Ability for the animal to recover from any impact on vital rates (reproduction and survival rates).*" The PEIR sensitivity levels were Low, Medium, High and Very High. At ES, the sensitivity levels changed to: Very Low, Low, Medium and High. Thus, Medium at PEIR equates to the Low at ES. The definition of Low sensitivity at ES was "A*bility to adapt behaviour so that individual vital rates (survival and reproduction rates may be affected but not at a significant level. Some tolerance – No significant change in individual vital rates (survival and reproduction). Ability for the animal to recover from any impact on vital rates (reproduction and survival rates)*." Cetacean sensitivity to PTS does not align with the definition for High sensitivity "*No ability to adapt behaviour so that individual vital rates (survival and reproduction) are highly likely to be significantly affected. No tolerance – Effect will cause a change in individual vital rates (reproduction and survival rates).No ability for the animal to recover from any impact on vital rates (reproduction and survival rates)."*. The PTS expert elicitation report (Booth & Heinis, 2018) provides a summary of the potential effect of piling noise on mammalian hearing and summarises the judgments of 7 world leading experts on marine mammal hearing and noise. The experts agreed that "*it was important to realise that reduced hearing ability does not necessarily mean a less fit animal (i.e. an animal of lower fitness)*." Booth & Heinis (2018) highlighted that experts considered that if PTS occurs, this would occur as a notch in hearing loss in a narrow frequency band (occurring somewhere between 2-10 kHz). They stressed this was not a loss of hearing across this entire band. The workshop concluded that *"Overall experts indicated*

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		that the effects of a 6 dB PTS in the 2-10 kHz band was unlikely to have a large effect on survival or fertility of the species of interest.". Thus, the best available knowledge on the effects of PTS do not align with a definition of High sensitivity.
2.1.24	If you consider the much higher baseline level of noise from piling of 240dB re 1 µPa it is recommended to re-examine the methods of mitigation as an essential tool before coming to any conclusions.	As discussed in responses 13 -15, noise levels in excess of 240 dB SPLpeak as source levels were an integral part of the underwater noise assessment, **Table 3-6, Appendix 11.3: Underwater noise assessment technical report, Volume 4 [APP-149]**, and could only occur at limited times and only directly adjacent to the pile.
2.1.25	"The designated features of each MCZ's and their conservation targets vary spatially, however there are recurring features such as black seabream (Spondyliosoma cantharus), lagoon sand shrimp (Gammarus insensibilis), short snouted seahorse (Hippocampus hippocampus) and subtidal sediments (chalk and mixed) present across multiple MCZs. In assessing the MCZ's from project alone effects, the magnitude of the effect is typically deemed to be negligible based on the evidence provided within this MCZ assessment. The development has the potential for inter-related effects including, 'proposed development lifetime effects', where multiple phases of the proposed development interact to create a potentially more significant effect on a receptor than in one phase alone. Additionally, 'receptor-led effects', where effects from different environmental aspects combine spatially and temporally on a receptor. * These have been considered for potential interactions between fish and shellfish ecology and benthic ecology aspects. Through the implementation of appropriate embedded environmental measures, the MCZ assessment concluded that based on the Stage 1 assessment of relevant features, there is no significant risk of the proposed development hindering the conservation targets of the identified attributes or the achievement of the conservation objectives stated for the following MCZs: Kingmere MCZ; Offshore Overfalls MCZ; Beachy Head West MCZ; Beachy Head East MCZ; Selsey Bill and the Hounds MCZ; Bembridge MCZ; and Pagham Harbour MCZ."[2] [2] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117/EN010117-000141-5.11%20Rampion%202%20Draft%20Marine%20Conservation%20Zone%20assessment.pdf	As detailed in Section 7.9 of the **Draft Marine Conservation Zone Assessment [APP-040]**, the full results of the inter-related effects assessment are detailed in **Chapter 30: Inter-related effects, Volume 2 [APP-071]**. No significant inter-related effects are concluded on the designated features of the Marine Conservation Zones (MCZs), and there is therefore no potential for the hindrance of the conservation objectives of the sites. The conclusions draw on the assessment of potential impacts on fish and shellfish receptors undertaken in **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]**, and the assessments of potential impacts on benthic, subtidal and intertidal ecology receptors undertaken in **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2 [APP-050],** whereby no residual effects (following the implementation of embedded mitigations proposed) are concluded to occur over the sequential phases of the project. As no residual effects are concluded on these environmental aspects, no significant inter-related effects are predicted to occur on the designated features of the MCZs.
2.1.26	There are seven MCZs that could be affected. These seem to have been scoped out of the assessment, but all of these sensitive receptors could be affected by construction noise. Sound modelling should be conducted based around levels, both SPL and SELss as well as propagation underwater, decay levels, cumulative effects of multiple arrays etc.* this is quite significant. What this is saying is that the combined effects of the development may provide a more significant effect on the receptor than the individual aspects of the development, ie: turbines. That the effects on the environment will be amplified due to the array nature of the turbines. The multiple coupling of the turbines will create a sonic array that will transmit low frequency signals above the water for the duration of the operation. This has not been assessed on its effect on humans and should be added to any noise modelling exercise.	The Marine Conservation Zones **(**MCZs) listed: Kingmere MCZ; Offshore Overfalls MCZ; Beachy Head West MCZ; Beachy Head East MCZ; Selsey Bill and the Hounds MCZ; Bembridge MCZ; and Pagham Harbour MCZ have been included in the assessment within the **Draft Marine Conservation Zone Assessment [APP-040]**. A summary of the assessment can be found in Table 8-1. There is no evidence of amplification due to the array nature of the turbines. Turbines are quiet during operation and increase in sound output as wind speed increases, but this is in combination with a natural increase in background noise in these conditions. A noise transmitted from a turbine is likely to have attenuated to background levels before it reaches another turbine, so the risk of significant intra-array amplification is negligible. Any airborne offshore infrasound generated by turbines will be insignificant at high wind conditions compared to the infrasound generated by wave action. A screening assessment of the operational noise effects of the Proposed Development as a result of the Wind Turbine Generators on residential

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		receptors during the operation and maintenance phase have been assessed in **Chapter 21: Noise and vibration, Volume 2** of the ES **[APP-062]** and **Appendix 21.3: Preliminary operational noise predictions, Volume 2** of the ES **[APP-178]**. The offshore array area is located approximately 13km from the nearest shoreline. This screening assessment concluded that no residential receptors are predicted that there will be no exceedances above the lower applicable noise limit (35 dB L_{A90}) as stated in ETSU-R-97 The Assessment and Rating of Noise from Wind Farms (The Working Group on Noise from Wind Turbines, 1996). Therefore, a detailed noise assessment is not required as it is expected that the Wind Turbine Generators will comply with the noise limits in accordance with ETSU-R-97.
2.1.27	**Operational Noise Including Infrasound** - 4.7.14 Section 4 Soundscape at Kingmere MCZ: "MMO agrees that acoustic disturbance should only be considered for audible sound. At a minimum, an introduced noise must be (a) above the hearing threshold and (b) exceed the background noise. Nonetheless, and with reference to the following statement in Section 4: "The "loud vessel" is approximately only 25 dB above the seabream hearing threshold. This implies that as a result of the seabream sensitivity, the "loud vessel" would be audible to the fish but is unlikely to be perceived as "loud"". - 4.7.15 MMO is unsure how this is relevant, especially as we are concerned primarily with piling noise (not vessel noise). Furthermore, whether a sound is perceived as "loud" does not necessarily indicate its potential for behavioural disturbance."	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.7.14 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations [REP1-017]**.
2.1.28	**It is not agreed that acoustic disturbance should only be considered for audible sound.** Wind turbines create what would seem to be a lot of the wrong type of noise, such are the specific frequencies and levels generated, as well as the distance they carry above and below the waterline. Sound can be very dangerous, not just the noise you can hear. High levels of infrasound or excessive sound pressure or exposure levels carry their own risks.	Constructive Heritage disagrees with the MMO's conclusions. The implication of the statement is not clear but appears to be that offshore turbines generate very low frequency (VLF) sound, which carries long distances, and claims that high levels of infrasound carries unspecified risks. Subacoustech, on behalf of the Applicant, has undertaken a 100-day continuous study of an operational offshore wind turbine underwater in 2017 (HDR, 2019) which included high and low wind speeds, and periods where the turbines were operational and shut down in these wind conditions allowing direct comparisons. There was no evidence of high levels of VLF (<50 Hz) underwater noise from the operational turbines when measured 50 m from the turbine, and there was no identifiable increase in VLF noise at any wind speed between the rotating and non-rotating condition, suggesting any presence of or increases in VLF were caused by environmental conditions, not the turbine itself. The Applicant can find no conclusive evidence suggesting that VLF noise at the distance of the turbines to the shore, which are a minimum of 13 kilometres, would be sufficient to lead to any adverse health impacts on humans, or would exceed natural background noise in the sea, nor that this would lead to any significant adverse impacts on marine life.
2.1.29	<u>Sound pollution created during operation of wind turbines in water.</u> Infrasound is classed as inaudible sound waves below 20 Hertz. It is an issue to be aware of as although you can't hear it, it doesn't mean it does not exist, nor that organisms are not affected by it, according to its influence. High amplitude low frequency generation underwater could affect divers considerably as well as many sea creatures.	The Applicant would like the Examining Authority to be aware that studies on underwater noise from operational wind turbines are limited, but a recent study (Yoon YG, Han D-G and Choi JW, 2023) showed that low frequency noise at the highest rotor speeds, was 110 dB re 1 $\mu Pa^2/Hz$ at peak 30 Hz, at 70 m from the turbine. This is far below any level of concern, and for most wind speeds and

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	What may be inaudible to us as noise (but could still affect us physiologically and/or physically especially at higher amplitudes), the same frequency or level could elicit impulsive behaviour from avoidance to fatigue, even organ failure, in all kinds of life subjected to it. Humans and aquatic life all have different hearing and body frequency responses so inaudible for us might be deafening to a fish.	rotations was only marginally above background noise. Another recent paper (Holme *et al,* 2023) "found no changes to the ambient broadband SPL from neither 6.3 nor 8.3 MW operating wind turbines" at 70-100 m from the turbines in direct measurements. There is no evidence for any "high amplitude" noise from operational turbines at any distance.
2.1.30	Fish overall use the lower frequency ranges in the low 100's hertz to hear and communicate, while mammals such as porpoise are much higher, up to the 10khz range. Wind turbines are very efficient large capacity sound generators indeed. They create large levels of infrasound (below 20hz), audible (20hz to 20khz) and ultrasound (above 20khz). Turbines work as a perfect transmitter through the column, in an omnidirectional manner, the pile acting as the resonator into the seabed. It also works in a directional manner, via the turbine blades. Both create high sound pressure waves that the low frequency noise created during operation will resonate through the foundations and sicken the sea and air around it with its constant droning when operating.	As noted above, the Applicant has seen no evidence for "large levels of infrasound" from operational wind turbines underwater. Terrestrial wind turbines have been the subject of concern regarding amplitude modulation "AM" noise, due to the passing frequency of blades. The BOEM study referenced in previous response (HDR, 2019) also studied offshore airborne noise near to the turbines, and these were found to lead to a low-level hum and a 'swish' when almost directly under the turbines. Due to higher levels of background noise in increased wind speeds on the sea, they were completely inaudible beyond approximately 100 m, and were never detected on shore, 5 km from the turbines. No conclusive evidence can be found for any significant adverse noise impacts in the air or sea caused by operational wind turbines.
2.1.31	It is recommended that the modelling of turbine noise during operation be conducted, including the recording of infrasound (20 hertz and below, 10hz at least, according to BS5228,) to ascertain its propagation through water, individually and as an array, the frequencies generated (which one can expect to change according to stresses placed upon it, wind speed, etc) cumulative values and amplitudes be considered before assessing its potential impacts. Operational noise should be classed as an adverse noise impact due to its capacity to introduce infrasound at high levels into the surrounding areas for the duration of the project. Infrasound travels faster through water and solids and does not dissipate. Its physical and psychological effects are varied but the overt characteristic is an intense feeling of oppression. Fatigue, blurred vision, irritability, headache, nausea, difficulty concentrating, tingling skin and aching limbs are all effects of infrasound. Infrasound is created by the action of the gearbox and turbines and is carried into the sea by its foundations. These low frequencies generated at higher amplitudes can cause adverse reactions in sea life as well as in humans. A small percentage of the population is so sensitive to infrasound that they become nauseous near the ocean (which naturally generates low-frequency signals). NASA has documented 17 Hz infrasound produces extreme blurring of vision. Walt Disney once conducted an experiment slowing down the 60-cycle tone of a soldering iron in a short cartoon. At a low-frequency 12 cycles, they became sick for days afterwards. The issue is not so much what the cochlea "hears," but the sound pressure that messes up the vestibular organs—the sound pressure that, depending on intensity, duration of exposure, and pulse of the infrasound, can do a lot of unseen damage.	It is noted and accepted that VLF noise can cause a variety of adverse impacts on humans. There is no evidence that VLF noise sufficient to lead to any of these effects would be generated by offshore wind turbines at distances of 13km (the closest distance from Rampion 2 to shore) or more from the source.
2.1.32	Long term exposure to high levels of infrasound during operation could have a detrimental effect on protected species and create areas of low environmental diversity.	There is no evidence for this from offshore wind farms. Please see responses above detailing available evidence on this matter.
2.1.33	Barotrauma is trauma from intense pressure changes, in the inner ear and lungs typically—this is what bats die from when they encounter wind turbines—"exploding lungs" If the noise from piling does not dissipate enough prior to reaching the spawning grounds MCZ it could cause issues with the Black Sea Bream such as barotrauma and affect spawning and eggs. There are also a number of protected sites of Seahorse all along the Sussex Bay coastline and an offence to disturb or harm any habitats.	There is no evidence that bats are of concern around offshore wind farms in UK waters, or relevant to this discussion. The impacts on seahorse and black seabream from underwater noise are the subject of detailed assessment in **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]** and additionally **Appendix 8.3: Underwater noise study for sea bream disturbance, Volume 4 [APP-134]**.

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2.1.34	These issues should be examined in much greater detail before coming to any conclusions. There should be no piling of such large piles so close to shore and in the same bay as such sensitive receptors as the Marine Conservation Zone or protected species such as the Seahorse or cetacean. The main potential impact to fish from the Project is from the underwater noise generated when piling. Fish sensitivity to noise varies greatly: Herring are considered to be the most sensitive.	Noted, the Applicant has no further comments on this matter at this time.
2.1.35	Many fish will actively avoid affected areas, but a percentage will stay in situ. The worst-case area that this might affect a fish is potentially 80km for herring therefore impacts of piling noise are a big concern in relation to Herring. Although not protected, they are known to be both sensitive to noise and a key prey item to rare and protected breeding seabird colonies that contribute to designated SPAs (Special Protection Areas). Piling noise would disturb both herring and nationally important black bream particularly during their most sensitive, peak spawning period. Black Sea Bream nests could be damaged. Electromagnetic fields (EMF) emitted from live power cables could have the potential to affect fish and shellfish, particularly elasmobranchs and little work has examined whether these have any implications or negative effects at habitat level. Beside the many protected species mentioned above Protection of Marine Mammals is of significant importance.	A detailed assessment of the impact from noise and any other stressors on marine species, including herring (and other fish) has been undertaken and included in **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]**, with marine mammals assessed in **Chapter 11: Marine mammals, Volume 2 [REP1-004]**, both of which are supported by information presented in **Appendix 11.3: Underwater noise assessment technical report, Volume 4 [APP-149]**. Following the implementation of the embedded environmental effects detailed in Table 8-13 of Chapter 8, and Table 11-14 of Chapter 11, and those set out in the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, which is secured in Part 2, Condition 11 (1) (k) Schedules 11 & 12 of the **draft DCO [PEPD-009]**, and the **Draft Piling Marine Mammal Mitigation Protocol [APP-236]**, which is secured in Part 2, Condition 11 (1) (l) Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2), no significant effects are expected to occur. Regarding the comment from Constructive Heritage on an 80km area for herring impact, the Applicant is unsure to what is being referred to. The Applicant has provided details of distances and areas potentially affected by underwater noise on herring in **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049].** Assuming a stationary receptor, the greatest distance for temporary threshold shift (TTS) in Group 4 fish (including herring) is 38km (unmitigated) and assuming the maximum design scenario parameters. In terms of lower-level disturbance, whilst the Applicant does not accept or propose the use of the 135 dB SELss criterion, modelling outputs of this level demonstrate propagation extents far lower than 80km (see Figure 8.20 in **Chapter 8: Fish and shellfish - Figures, Volume 3 [APP-081]**. The Applicant also refers Constructive Heritage to the full assessment of the potential risk of impact from EMF during the operational phase of the Proposed Development, set out in the same chapter.
2.1.36	**UXO clearance** "The maximum equivalent charge weight for the potential UXO devices that could be present at Rampion 2 has been estimated as 525 kg. This has been modelled alongside a range of smaller charge weights of 25, 55, 120, and 240 kg. It is appropriate that the estimation of the noise source level for each charge weight has been carried out in accordance with the methodology of Soloway and Dahl (2014). It is noted that an attenuation correction has been added to the Soloway and Dahl (2014) equations for the absorption over long ranges (i.e., of the order of thousands of metres), based on measurements of high intensity noise propagation taken in the North Sea and Irish Sea. The maximum PTS range (SPLpeak) calculated (based on the worst-case UXO) is 13 km for VHF cetaceans (SPLpeak criteria) (with a TTS range of 23 km). For fish, the maximum range is 810 m. MMO has conducted a spot check of the worst case predictions which look reasonable (assuming the methodology from Soloway and Dahl and no attenuation correction)."[3] [3] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117/	Noted, the Applicant has no further comments on this matter at this time.

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	EN010117-000811-ISH1%20Action%20Points.pdf	
2.1.37	Taking these numbers as a guide and that the North and Irish Sea due to their more potentially turbulent natures would tend to attenuate sound slightly quicker than in the Sussex Bay, it is of value to note that a Permanent Threshold Shift could occur in EPS cetaceans up to 13km away from source of detonation.	The unexploded ordnance (UXO) underwater noise assessment in **Chapter 11: Marine mammals, Volume 2** **[REP1-004]** concludes that harbour porpoise could be subject to Permanent Threshold Shift (PTS) onset at 13 km if a 525 kg UXO was detonated using high-order detonation methods. PTS on other species would be up to 2.5 km. This would occur only if the largest UXO device was found and required detonation at high order. However, low order techniques are proposed as the primary method (as per the 2022 Unexploded ordinance clearance joint interim position statement (BEIS *et al,* 2022)), which substantially reduces any risk: the risk of PTS onset to harbour porpoise reduces to 3.4 km and less than 1 km for any other species. The Applicant has committed to the use of low order detonations where possible using the 'deflagration method' (C-275). A **Draft Unexploded Ordnance Clearance Marine Mammal Mitigation Protocol** **[APP-237]** was provided with the ES. This outlines the potential mitigation measures that can be put in place to prevent the risk of auditory injury (PTS).
2.1.38	Given that 13km is the approximate distance to shore from the proposed turbine park, this infers that there is increased risk for cetaceans and other life anywhere between the turbine areas and shore. Concerns are for aquatic life and health during construction. Most aquatic life would be affected; many are habitat based. It is a myth that any sea creatures can just leave the affected area, for example, the seahorse, which are living at various places in the Sussex Bay. The affected area can run into many miles in size and there cannot be an expectation that fragile life extant can just 'pack up and go'. Go where if everywhere is affected by the same disturbance? There would be huge a habitat displacement/loss as opposed to any Net Gain.	The Applicant re-iterates that is has committed to the use of low order clearance where possible using the 'deflagration method' (commitment C-275) as secured by the **Draft Piling Marine Mammal Mitigation Protocol** **[APP-236]** in Schedule 11 &12, Part 2, Condition 11 (1) (l) of the **Draft Development Consent Order** **[PEPD-009]**. Thus this 13 km PTS onset range for the high order clearance of the maximum size UXO is not expected to occur. Widespread avoidance and habitat loss effects are suggested by Constructive Heritage from UXO clearance, but there is no evidence that this could be caused by isolated events such as this. The Applicant confirms that a detailed and precautionary assessment of the potential impacts on fish and shellfish receptors from the development has been undertaken in **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049].** Impacts to sensitive features from the Proposed Development are assessed in Sections 8.9, 8.10, and 8.11 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. Embedded mitigation measures to reduce the magnitude of impacts from underwater noise, suspended sediment, direct disturbance, and habitat loss have been summarised in Table 8-13 of **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]** and are detailed in the **In Principle Sensitive Features Mitigation Plan** **[APP-239]**. As detailed in **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]**, following the implementation of the proposed embedded mitigation, no significant effects will occur from the proposed development on sensitive features.
2.1.39	The sound of piling has now reached a concussive level which is on par in comparison with the above biggest UXO charge weights. So, counting the 45,000 concussions into the seabed at 240 dB(A) re 1	The Applicant would like to clarify that the smallest UXOs considered have an estimated SPL_{peak} source level of 40 dB greater than the highest pile strikes noted, which is a factor of 10,000x, and the largest UXO in excess of 100,000

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	µPa it can be concluded that a similar distance of effect (or exclusion zone) as above, on marine life and users including divers would be created by the piling and construction noise.	times the peak sound pressure, and so any suggestion of equivalence is unfounded. There is no reasonable comparison between distance of effect between high order UXO clearance from devices of any size (which is not proposed, see C-275) and piling.
2.1.40	**Anecdotal Evidence from members of the Public** *Reg Phillips – Facebook* "The pile driving has severe impacts on finfish, during the Angling Trust four year juvenile fish surveys along our open beaches in West Sussex we experience a drop (in) species being caught so it does disrupt the spawning, nesting and juvenile life cycles of finfish. The threat to the Kingmere black bream stocks is huge, but not just them, dover sole, plaice, turbot, brill, and just about every other demersal species that uses our nearshore waters to spawn could be severely impacted upon. There is talk of extending the Kingmere black bream spawning season from 12 to 16 weeks as more science is gathered on their spawning cycle, that is 4 months of each year construction of the site will have to stop which will extend the time in which the site is completed, the cable route laid and nature can take back the environment. We could be looking at 4 years of disruption at which point our commercial fishermen will be justly compensated but our charter skippers and clubs will be ignored like last time. There is lots to consider and digest guys."	Noted, the Applicant has no further comments on this matter at this time.
2.1.41	**Sound Issues Concerning Rampion 2 During Construction and Operation** After a career in sound reinforcement design, construction and maintenance, a recreational diver and fishkeeper, it is my understanding that the Rampion 2 proposal has the potential to cause far greater damage from construction and operation than is currently being understood. I have grave concerns for the noise levels of sound pressure and exposure levels that could be generated should the application be approved under seemingly understated and underrepresented parameters.	Noted, the Applicant has no further comments on this matter at this time.
2.1.42	"The decibel scale is a logarithmic scale used to measure the amplitude of a sound. If the amplitude of a sound is increased in a series of equal steps, the loudness of the sound will increase in steps which are perceived as successively smaller. A decibel doesn't really represent a unit of measure like a yard or meter, but instead a pressure value in decibels expresses a ratio between the measured pressure and a reference pressure. On the decibel scale, everything refers to power, which is amplitude squared. And just to confuse things, the reference pressure in air differs from that in water. Therefore a 150 dB sound in water is not the same as a 150 dB sound in air. So, when you are describing sound waves and how they behave it is very important to know whether you are describing sound in the sea or in air.	Noted, the Applicant has no further comments on this matter at this time.

Amplitude of Example Sounds	In Air (dB re 20µPa @ 1m)	In Water (dB re 1µPa @ 1m)
threshold of hearing	0 dB	--
whisper at 1 meter	20 dB	--
normal conversation	60 dB	--
painful to human ear	130 dB	--
jet engine	140 dB	--
blue whale	--	165 dB
earthquake	--	210 dB
supertanker	128 dB (example conversion)	190 dB
13.5m monopile single strike *(for comparison)*	178 dB	240 dB

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2.1.43	Note on Acoustic Noise Level Units: Hydrophones measure sound pressure, normally expressed in units of micropascals (µPa). Early acousticians working with sound in air, realized that human ears perceive differences in sound on a logarithmic scale, so the convention of using a relative logarithmic scale (dB) was adopted. In order to be useful, the sound levels need to be referenced to some standard pressure at a standard distance. The reference level used in air (20µPa @ 1m) was selected to match human hearing sensitivity. A different reference level is used for underwater sound (1µPa @ 1m). Because of these differences in reference standards, noise levels cited in air do NOT equal underwater levels. To compare noise levels in water to noise levels in air, one must subtract 62 dB from the noise level referenced in water. For example, a supertanker radiating noise at 190 dB (re 1µPa @ 1m) has an equivalent noise level in air of about 128 dB (re 20µPa @ 1m). These numbers are approximate, and amplitude often varies with frequency.	Noted, the Applicant has no further comments on this matter at this time.
2.1.44	Faster than the Speed of Sound... The speed of a wave is the rate at which vibrations move through the medium. Sound moves at a faster speed in water (1500 meters/sec) than in air (about 340 meters/sec) because the mechanical properties of water differ from air. Temperature also affects the speed of sound (e.g. sound travels faster in warm water than in cold water) and is very influential in some parts of the ocean. Remember that wavelength and frequency are related because the lower the frequency the longer the wavelength. More specifically, the wavelength of a sound equals the speed of sound in either air or water divided by the frequency of the wave. Therefore, a 20 Hz sound wave is 75 m long in the water (1500/20 = 75) whereas a 20 Hz sound wave in air is only 17 m long (340/20 = 17) in air. Sound, and especially low-frequency sound, can travel thousands of meters with very little loss of signal."[4] [4] https://oceanexplorer.noaa.gov/explorations/sound01/background/acoustics/acoustics.html	Noted, the Applicant has no further comments on this matter at this time.
2.1.45	For extrapolation purposes, Rampion 2 documentation does not mention the instantaneous sound pressure level (SPL) of a 13.5m diameter mono-pile at every strike?	**Appendix 11.3: Underwater noise assessment technical report, Volume 4 [APP-149]** notes the worst-case maximum energy per-strike apparent source noise level. As a worst-case scenario has been applied for the purposes of the assessment, presenting the noise level at every strike, which would be different at each location, is not necessary.
2.1.46	A comparable wind farm construction currently is Orsted off the east coast of the USA. Independent professional acoustician Robert Rand recorded the mitigated piling decibel level of a 13.5m diameter pile ½ a mile (750m approx) from point of impact registered underwater at; 241 dB(A) re 1 µPa. Above the waterline this registered at; 188 dB(A) re 20 microPascals (µPa) This is described as the equivalent to the shock wave of a 155mm artillery Howitzer going off every hammer strike into the seabed.[5] [5]"Thrown To the Wind, Part 2", filmmaker Jonah Markowitz documents acoustician Rand measuring illegal levels of noise from pile-driving by the wind industry off of Martha's Vineyard. Public.substack.com/p/illegal-levels-of-whale-killing-pile	The video "Thrown to the Wind part 2" does not provide the actual measured data or any methodology for the survey. The documentary claims that "*the pile driving at source level measured approximately 241 decibels*". However, the video shows measurements being taken at 0.57 miles (917 m) from the pile. No information is provided on how "source level" (at the pile) has been calculated from the "received level" at the measurement location. To back-calculate source level from received level is a complicated prediction/extrapolation to make and the methodology by which it was done has not been provided and thus cannot be verified. At no point in the video "Thrown to the Wind part 2" does it state that "*Above the waterline this registered at; 188 dB(A) re 20 microPascals (µPa)*".
2.1.47	It would then radiate omni-directionally for miles. Assuming 1 pile @ 5000 strikes per pile x 90 piles = 45,000 concussions into the seabed (or the sonic blast equivalent of 45,000 heavy artillery shells being fired off during the construction phase into the Sussex Bay.) That is independent of and in addition to, the UXO detonations of a similar capacity of destructive noise levels.	The Applicant acknowledges that underwater noise radiates for distances of the order of miles. However, the noise would not be a 'sonic blast', blast implies a blast wave, which piling does not produce.

Ref	Written Representation Comment	Applicant's Response
2.1.48	N.B. An almost identical figure for peak instantaneous sound pressure level (Lpk) of a 13.5m diameter pile being driven into the sea bed of 240 dB re 1 µPa (underwater) was given by the Rampion 2 representative at the Planning Inspectorate hearing on noise levels during construction, when specifically asked.	The Applicant confirms this figure was given during ISH 1, and this was stated in Table 3-6, **Appendix 11.3: Underwater noise technical report, Volume 4 [APP-149]**.
2.1.49	Quick calculation (using the applicant's figure of maximum instantaneous SPL (Lpk) of a 13.5m pile): 240 dB(A) re 1 µPa The MMO's recommendation for maximum SPL for mitigated piling noise 135 dB(A) re 1 µPa Difference for purposes of mitigation reduction necessary to achieve the MMO's figures 105 dB(A) re 1 µPa There are no sound mitigation methods that can reduce the noise from piling by 100 dB(A) re 1 µPa	This is an incorrect interpretation of the numbers specified in the Thrown to the Wind video, the values used in underwater acoustics, and the MMO's recommendations. The author has confused A weightings, SPLpeak and SEL values, source levels and levels at range, and how the MMO's recommendations should be applied. For clarity, the stated 240 dB is a source level, and uses a different dB metric to the 135 dB recommendation, (which the Applicant notes has also not been agreed as the relevant threshold). No distance correction has been included, which must be set out relevant to the receptor location. The Applicant refers Constructive Heritage to the proposed noise threshold and detailed noise mitigation measures presented in the **In Principle Sensitive Features Mitigation Plan [REP1-012]**.
2.1.50	The maximum might be around -25 dB with a combination of mitigation devices, this is still way off. At these levels more modelling should be done to evidence not just mitigation specifics which are lacking but also legitimate capability to achieve levels set out as the defined minimum by the MMO.	It is beyond the scope of this response to explain underwater acoustics, but there is no expectation that a reduction of over 100 dB(A) re 1 µPa would or should be achieved. 135 dB is not a defined minimum set out by the MMO, but a recommendation. The Applicant highlights it has committed to and secured a number of noise mitigation measures within the application. This includes the **Draft Piling Marine Mammal Mitigation Protocol [APP-236]** secured via Schedule 11, Part 2 11 (l) and Schedule 12, Part 2 11 (l) of the **Draft Development Consent Order [PEPD-009]** included in Table 8-13 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]** which is an embedded environmental measure related to the use of soft start procedures for piling to deter mobile marine life, therefore reducing the noise exposure to fish and shellfish receptors when assessed as mobile receptors. With regards to mitigating against the potential for impacts to sensitive stationary receptors such as black seabream and seahorse, further mitigation measures have been proposed. These are detailed in the **In Principle Sensitive Features Mitigation Plan [REP1-012]** and include the implementation of at least one noise mitigation technology year-round. These measures are secured via Schedule 11, Part 2 11 (k) and Schedule 12, Part 2 11 (k) of the **Draft Development Consent Order [PEPD-009]**. The Applicant has investigated the use of various underwater noise mitigation technologies and provided underwater modelling outputs for the implementation of noise abatement measures, used both singly and in-combination, to ensure the Conservation Objectives of the Kingmere MCZ will not be hindered in the **In Principle Sensitive Features Mitigation Plan [APP-239].** This document sets out details of the equipment and techniques currently available to provide certainty that reductions in noise emissions, and importantly immissions at receptor sites, can be delivered. However, it is important that developments in the field of noise abatement are not excluded from use at the Proposed Development. It is on this basis that the Applicant considers the mitigation specifics provided at this time to be appropriate, both reflecting the secured

Ref	Written Representation Comment	Applicant's Response
		commitments that noise mitigation will be used as standard for all piling activities undertaken during the construction of the Proposed Development; and providing for the benefits of future development and improvement of noise mitigation/abatement measures to be realised for Rampion 2. Detailing specific noise mitigation/abatement equipment at this stage would limit the Applicant in its ability to adopt the most appropriate measures for the final design parameters, which will be developed post-consent, and notably in several years' time. This later point is important as noise mitigation and abatement technologies are rapidly developing and improving, and the Applicant considers it important to have the flexibility to select the most appropriate measures available at the time of construction. As detailed in the **In Principle Sensitive Features Mitigation Plan** [REP1-012], the maximum mitigation of -25dB achieved by a combination of mitigation devices is modelled using a behavioural threshold of 141dB re 1 µPa2s (SELss). As evidenced in Figures 5.11 and 5.14 of the **In Principle Sensitive Features Mitigation Plan** [REP1-012], any piling in the array area outside of the defined exclusion zone with the implementation of noise mitigation measures, there will be no behavioural effects on sensitive features (seahorse and black seabream) within the MCZs. The Applicant reiterates that they do not support the application of the 135 dB SEL contour to establish behavioural impact ranges for sensitive receptors. Specifically, this threshold is based on a study undertaken within a quiet loch on fish not involved in any particular activity (i.e. not spawning) It is therefore not considered appropriate to use this threshold within a much noisier area such as the English Channel (which is subject to high levels of anthropogenic activity and consequently noise), as the fish within this area will be acclimated to the noise and would be expected to have a correspondingly lower sensitivity to noise levels.
2.1.51	More accurate noise propagation modelling should be presented based on current data and not historic, as current size piles were not included in the modelling, so of no comparison to modern noise levels. This is significant due to the higher noise levels now being generated so close to shore with potential to affect so much life, for many miles, below and above the waterline. The comparison figures quoted in the ES have no relevance with modern piles and the ES noise levels are much lower than can be expected. If we use Rampion 1 as a baseline comparison, then noise levels onshore during its construction especially at night with a calm sea (worst case scenario) was at times excessive, caused a number of complaints and was something personally experienced. Rampion 2 has scoped the use of much larger turbines (up to 2.5 times larger) than Rampion 1 so there must be an expectation of that level of noise to become much more disturbing than previously. In this case, everything is that much larger and therefore louder so more accurate modelling is necessary.	Predictions made in the Environmental Statement utilise the best available data, based on data as recent as 2022 in UK waters, with extrapolations made for the current pile sizes (noting that the physical pile size has a relatively small effect on the noise at this scale). The basis for the claim that the 'comparison figures' have no relevance is made without evidence. This modelling used was undertaken using the INSPIRE underwater noise modelling software, which is approved by the MMO, and continually updated with real-world data, assuming a pile diameter of 13,5m, the maximum design scenario assessed in the ES.
2.1.52	Sussex Wildlife Trust have also asked for a commitment on noise abatement technology. - 4.6.65 "To summarise MMO has major concerns outstanding and considers further information is required on modelling along with further discussions on mitigation.	Noted, the Applicant has no further comments on this matter at this time.

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2.1.53	Monopile foundations (worst-case assuming 2 monopiles): The largest ranges are predicted at the S modelling location (with the deeper water depths of 53.4 m). For marine mammals, the following maximum PTS (SELcum) injury ranges are predicted: • 15 km for low frequency cetaceans (i.e., minke whale), • 7.4 km for very-high frequency cetaceans (i.e., harbour porpoise), and • < 100 m for phocid pinnipeds (i.e., seals). TTS ranges of 46 km, 34 km and 16 km were predicted for LF Cetaceans, VHF cetaceans and phocids respectively. PTS SPLpeak ranges of <50 m, 680 m and 60 m were predicted for LF Cetaceans, VHF cetaceans and phocids respectively. For fish, a maximum range of 41 km (stationary receptor) was predicted for TTS using the Popper et al. (2014) criteria (for 2 sequentially installed piles), as well as potential mortal injury (7.4 km) and recoverable injury (12 km). Based on a (behavioural) threshold of 135 dB SELss from Hawkins et al. (2014), effects are predicted out to 67 km (for a single monopile).	This extract is taken from the Environmental Statement, the Applicant has no further comments on this matter at this time.
2.1.54	Jacket pile foundations (worst-case of four sequential piles): The largest ranges are also predicted at the S modelling location. For marine mammals, the following maximum PTS (SELcum) injury ranges are predicted: • 13 km for low frequency cetaceans (i.e., minke whale), • 5.9 km for very-high frequency cetaceans (i.e., harbour porpoise), and • < 100 m for phocid pinnipeds (i.e., seals). TTS ranges of 43 km, 31 km and 15 km were predicted for LF Cetaceans, VHF cetaceans and phocids respectively. PTS SPLpeak ranges of <50 m, 560 m and <50 m were predicted for LF Cetaceans, VHF cetaceans and phocids respectively. For fish, a maximum range of 44 km (stationary receptor) was predicted for TTS using the Popper et al. (2014) criteria, as well as potential mortal injury (8.9 km) and recoverable injury (14 km).	This extract is taken from the Environmental Statement, the Applicant has no further comments on this matter at this time.
2.1.55	Based on a (behavioural) threshold of 135 dB SELss from Hawkins et al. (2014), effects are predicted out to 63 km (for a single jacket pile). That's a very long distance of effect especially being omnidirectional in nature. 63 km means the whole of the Sussex Bay will be affected. As water is basically incompressible, these levels could cause hearing damage so the waters of the Bay would be out of bounds to divers. Those levels would not be safe, especially that it's not a single strike, but thousands...This is also assuming the applicant can achieve 135dB SELss or preferably less	It should be reiterated that the 135 dB behavioural threshold from Hawkins (2014) is derived from playback of a sound that led to a small reaction in half of the sprat under observation in a quiet lough environment. The claim appears to be that a small reaction in a highly sensitive fish species is equivalent to hearing damage in humans. The two effects should not be conflated.
2.1.56	4.7.3 "Following finalisation of the project design and pre-construction surveys, if construction activities are expected to cause significant disturbance or injury to a European Protected Species (EPS) (cetaceans), an EPS licence(s) will be applied for where applicable. MMO would encourage early engagement with the MMO conservation team."	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.7.3 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations [REP1-017]**.
2.1.57	The modelling outlined in 4.6.65 shows high potential for causing significant disturbance or injury to a European Protected Species.- "The guidance document illustrates a preventative approach to ensure the strict protection of EPS in their natural range as required by Article 12 of the Habitats Directive. It provides an interpretation of the offences of deliberate capture, injury, killing or disturbance of any wild animal of an EPS, under regulations 41(1)(a) and (b) in The Conservation of Habitats and Species Regulations 2010 (HR) and 39(1)(a) and (b) in The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (amended in 2009 and 2010, OMR)."[6] - "In June 2020, JNCC together with Natural England (NE) and the Department of Agriculture, Environment and Rural Affairs in Northern Ireland (DAERA) published advice to competent authorities on what could constitute Significant Disturbance within harbour porpoise SACs in England, Wales and Northern Ireland marine areas. In addition, guidance was provided on a noise management approach to keep underwater noise within levels that do not affect a site's integrity." [6]https://jncc.gov.uk/our-work/marine-mammals-and-offshore-industries/#legal-protection-for-marine-mammals	The Applicant would like to confirm that a full European Protected Species (EPS) risk assessment for injury and disturbance will be conducted post consent once the final piling parameters are known. This risk assessment will inform the requirement for an EPS licence. Also, the guidance provided on "a noise management approach to keep underwater noise within levels that do not affect a site's integrity" is in the context of "Noise management within harbour porpoise SACs". Rampion 2 is not located within or in close proximity of a harbour porpoise Special Area of Conservation (SAC).

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2.1.58	**The JNCC advise**:- "In harbour porpoise SACs, the advice on avoiding significant disturbance applies to plans/projects alone and in-combination. For the largest SACs such as the SNS SAC, most individual operations/projects are unlikely on their own to result in an adverse effect on site integrity. This is due to a relatively small spatial footprint when compared to the area of the site combined with the temporary nature of noise effects. For smaller sites, some individual operations will likely have to modify their planned approach in order to reduce their spatial and temporal footprint. For many, this is likely to take the form of noise mitigation/abatement systems which will reduce the disturbance ranges. In areas outside (but also within) the SACs, operations/projects with the potential to result in injury or disturbance can only go ahead if mitigation measures can be employed in order to reduce the risk to individual animals.	There is no overlap between predicted impact ranges of the Proposed Development and the Southern North Sea Special Area of Conservation (SAC) or any other harbour porpoise SAC. The Applicant has committed to the implementation of at least one offshore piling noise mitigation technology and has modelled low energy piling hammers and double bubble curtains as potential options in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**, which is secured in Part 2, Condition 11 (1) (k) Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009].** The Applicant has also produced a **Draft Piling Marine Mammal Mitigation Protocol** **[APP-236]**, which is secured in Part 2, Condition 11 (1) (l) Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009],** which sets out mitigation measures for marine mammals. The Applicant has considered the underwater noise effects on several species, including cetaceans and fish species, and is continuing discussions with Natural England and the Marine Management Organisation throughout the examination to determine the mitigation measures which will be implemented during the construction period of the Proposed Development.
2.1.59	To reduce the risk of hearing damage in the immediate area around the noise sources, measures such as a 'soft start', marine mammal observers enforcing mitigation zones and acoustic deterrent devices are routinely employed. It is more challenging to reduce the risk of disturbance at larger ranges and therefore an activity can only go ahead with a licence under the EPS regulations. Licences should only be issued when there are no satisfactory alternatives (alternative methods that would not cause disturbance) and if the activity does not have an effect on a species' FCS. All projects that could result in disturbance according to the EPS regulations will need to undertake an assessment of the impacts on the species' FCS from the project alone and in combination with others.	The soft start/ramp-up procedure for the Proposed Development is set out in the **Draft Piling Marine Mammal Mitigation Protocol** **[APP-236]**, which is secured in Part 2, Condition 11 (1) (l) Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**. A full EPS risk assessment for disturbance will be conducted post consent once the final piling parameters are known. This risk assessment will inform the requirement for an EPS licence.
2.1.60	If an impact cannot be ruled out, then the project cannot not be licensed as planned. For those licences that are issued, it is incumbent on competent authorities to monitor the effect of these on the population(s) of the species to ensure that there is no detriment to FCS from cumulative effects of the licences."	This is a matter for the Competent Authorities to address.
2.1.61	Interpretation of the injury offence. - "Certain activities that produce loud sounds in areas where animals of an EPS could be present have the potential to result in an injury offence, unless appropriate mitigation measures are implemented to prevent the exposure of animals to sound levels capable of causing injury. Mitigation measures such as those presented in Annexes A, B and C of this document, when used appropriately and adequately, are likely to reduce the risk of an injury offence to negligible levels. This guidance proposes that a permanent shift in the hearing thresholds (PTS) of an EPS would constitute an injury offence and suggests the use of the Southall et al. (2007) precautionary criteria for injury. These criteria are based on quantitative sound level and exposure thresholds over which PTS-onset could occur for different groups of species. If it is likely that an EPS could become exposed to sound at or above the levels proposed by Southall et al. (2007) then there is a risk that an injury offence could occur. The risk of an injury offence will be higher in areas where EPS occur frequently and/or in high densities."	A full EPS risk assessment for injury will be conducted post consent once the final piling parameters are known. This risk assessment will inform the potential mitigation measures and the requirement for an EPS licence.

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2.1.62	4.6.54 "Based on the UWN contours presented in Figure 8.20 of Chapter 8 which present the 135 dB contour, UWN from piling undertaken at the Rampion 2 array, particularly from piling activities at the west and south modelling locations, will overlap the Downs herring spawning ground. Given that the UWN abatement scenarios in the mitigation plan have been presented based on a threshold of 141 dB, the range of behavioural impact for herring will likely be higher than has been presented. The Applicant should repeat the modelling exercise and present UWN modelling for the noise abatement reduction scenarios using a behavioural response threshold of 135 dB SELss. The MMO also requests to see the unmitigated UWN contours provided alongside each noise abatement scenario for comparison. Piling restriction, March to June and July."	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.36 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations [REP1-017]**. The Applicant would also highlight the additional modelling outputs presented in the **Deadline 1 Submission - 8.25.1 Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 9 - Further information for Action Points 38 and 39 – Underwater Noise [REP1-020]**, submitted at Deadline 1.
2.1.64	- 1 "Vibration and noise might induce avoidance behaviour and reduce fitness of sensitive organisms, thereby potentially changing population structure and distribution patterns & - 30 Direct mortality or reduction in fitness through damage caused by sound waves of the natural substrates. Changes in distribution: introduced noise will cause distribution changes in natural and artificial hard-substrate fauna" For fish close to piling activity, the impact of strong impulsive sound can lead to barotraumas and hair cell damage (Halvorsen et al., 2012a, 2012b, Casper et al., 2013a, 2013b; De Backer et al., 2014). The risk of barotrauma occurrence depends on the presence/absence of a connection between a swim bladder and a gut. The most numerous and most severe injuries are observed in physoclistous fishes lacking that connection, which makes them unable to adjust their swim bladder fast enough to avoid injury. In contrast, physostomous fishes which have the swim bladder connected to their gut, are able to adjust the swim bladder relatively quickly making them less susceptible to injury. Adult flatfishes are the least susceptible to these types of injuries, since adults lack a swim bladder (Bolle et al., 2012; Halvorsen et al., 2012b). Recovery after injuries were observed under laboratory conditions for both physostomous and physoclistous fishes (Casper et al., 2012, 2013b, Halvorsen et al., 2012a, 2012b). Filed studies have shown that the severity of the swim bladder barotrauma and internal bleeding in Atlantic cod is related to a distance from piling activity (De Backer and Hostens, 2017). Physiological changes indicating stress, such as decreased oxygen consumption rate (50%) have been recorded in young sea bass during piling activities (Debrusschere et al., 2016). All fish are capable of detecting particle motion via the otolith and lateral line therefore may still be exhibit behavioural responses (Andersson et al., 2017).	This is acknowledged by the Applicant; a full, comprehensive assessment of the potential for impacts from underwater noise on fish and shellfish receptors is undertaken in Section 8.9 of **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]**. The potential for mortality, recoverable injury and behavioural effects have been assessed for fish receptors, with differing hearing capabilities and anatomies (as defined by the Popper et al., 2014 criteria). As shellfish do not possess swim bladders or other gas filled organs, it is considered that shellfish are primarily sensitive to particle motion rather than sound pressure (Popper and Hawkins, 2018). As there are currently no criteria for assessing particle motion, a qualitative assessment of the potential for impacts to shellfish from underwater noise is undertaken in Section 8.9 of **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]**.
2.1.66	Knowledge on the impact of sound on epibenthos, particularly invertebrates remains poor and is generally lacking on the impact of impulsive sound (Edmonds et al., 2016; Roberts and Elliott, 2017). Recently, offshore experiments have shown cephalopod sensitivity to noise (particle motion and sound pressure) resulting in statocyst injury with a severity which was proportional to the distance from source (Solé et al., 2017). Invertebrates (e.g. bivalves) and epibenthic life stages (e.g. eggs) that are not able to escape, may experience a higher risk of direct damage from exposure to sound and vibrations, although changes in behaviour and sensitivities are also likely to be important (Edmonds et al., 2016; Roberts and Elliott, 2017). For example, it has been shown that anthropogenic sound repressed burying behaviour in Nephrops norvegicus, with important consequences for bioirrigation and associated ecological processes (Solan et al., 2016). At present, there is not a full understanding of all the causal underwater sound parameters and their effect on marine fauna. This knowledge is needed to establish valuable mitigation measures and sound criteria.[7] [7]Review of current knowledge on the hypothesised cause-effect relationships (hypothesised paths); a literature backbone of 233 publications (all references are publically available in a library at www.mendeley.com/community/benthic-effects-of-offshore-renewables - access date: 15.01.2019)	This is acknowledged by the Applicant; a full, comprehensive assessment of the potential for impacts from underwater noise on benthic receptors is undertaken in paragraph 9.9.72 et seq. of **Chapter 9 Benthic, subtidal and intertidal ecology, Volume 2 [APP-050].** The assessment of impacts from underwater noise on shellfish receptors is undertaken in Section 8.9 of **Chapter 8: Fish and shellfish ecology, Volume 2 [APP-049]**.

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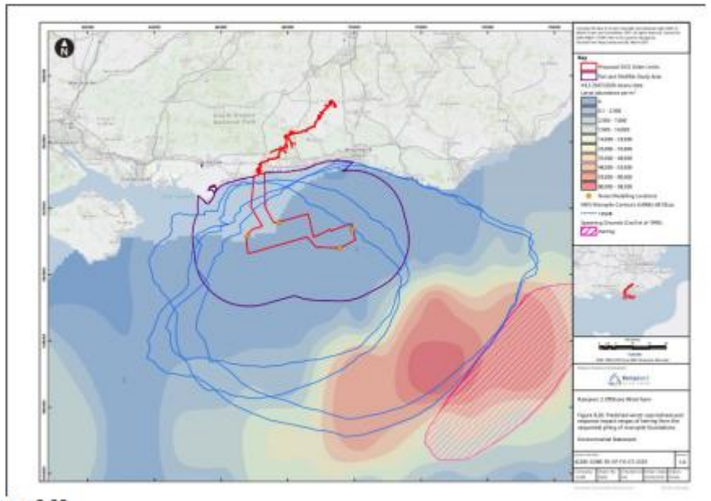
2.1.67	From MMO Relevant Representation - 4.6.52 "The UWN modelling upon which the UWN mitigation plan is based has used a received noise threshold of 141 dB in relation to black seabream. The MMO does not consider this to be sufficiently precautionary and has maintained that modelling should be done based on 135 dB SELss, as per Hawkins et al., (2014), noting the threshold approach has not been agreed.	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.22 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**.
2.1.68	4.6.53 135 dB SELss, as per Hawkins et al., (2014) is also relevant for modelling impact ranges for likely behavioural effect herring and should have been modelled in this mitigation plan. Additionally, the noise abatement options have not been modelled in the context of the Downs herring spawning ground, based on the Applicant's conclusion that "there is a low risk of any adverse effects arising even without mitigation as set out within Chapter 8: Fish and shellfish ecology". Please refer to points 4.6.38 - 4.6.39 as to why the MMO disagrees with this conclusion."	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.36 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**.
2.1.69	Mitigation - 4.6.41 "The Applicant has outlined a number of proposed environmental measures under table 8.13 in Chapter 8, which are intended to minimise significant disturbance to sensitive receptors (identified principally as black sea bream, herring and seahorse). These are outlined in Annex 2. It is noted that the Applicant has asserted that these measures will be secured either through inclusion in the DCO requirements, or through conditioning onto the DML. The MMO is supportive of the Applicant implementing targeted mitigation however, the MMO considers that some of these measures need further refinement, to be agreed and secured through focussed and targeted consultations in which the relevant evidence can be carefully examined, and each issue can be adequately addressed."	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.39 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**.
2.1.70	Please see relevant representations on the seahorse regarding habitats in the Sussex Bay. Rather than there being too few to be an issue as mentioned at the relevant Planning Inspectorate hearing, there are a number of protected seahorse habitats in the Sussex Bay.	The Applicant is confident that based on these data presented in **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]**, seahorse numbers within the vicinity of the Proposed Development are generally low. The Applicant has undertaken a suitably precautionary assessment and assumed the presence of overwintering seahorse in the vicinity of the Proposed Development. Therefore, as detailed in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**, which is secured in Part 2, Condition 11 (1) (k) Schedules 11 & 12 of the **Draft Development Consent Order** **[PEPD-009]**, as a further precaution, the Applicant has committed to the use of at least one offshore piling noise mitigation technology for the duration of the construction phase, this will ensure any potential for impact on seahorse in its offshore winter phase is minimised.
2.1.71	4.6.51 "A series of mitigated piling scenarios have been presented using various noise abatement techniques in Figures 5.4 – 5.9. Some of these scenarios present multiple noise abatement techniques (low noise hammer technology and double bubble curtains (DBBC)) which appear to produce significant noise reductions (up to 25dB), however, the MMO notes from previous advice that the likely achievable noise reduction in dB will depend on the site conditions at Rampion 2. This should be taken into account and presented within the documents"	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.22 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**.
2.1.72	4.6.37 "Further to this, Figures 8.18, 8.19 and 8.21, which present UWN for sequential pin-piling, sequential mono-piling, and simultaneous pin-piling, all indicate that the likely range of impact of TTS in fish is also anticipated to overlap the herring spawning grounds. Given the proximity of the Rampion Array to the active Downs herring spawning ground, the MMO has serious concerns as to the level of impact that piling within the Rampion Array will have on spawning herring unless suitable mitigation is implemented." More noise assessment is needed including propagation and decay rates.	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.36 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**.

Ref	Written Representation Comment	Applicant's Response
2.1.74	Herring and Black Seabream UWN Conclusions - 4.6.36 "The MMO disagrees with the Applicant's assessment of potential impacts to herring from UWN. The MMO notes from the Underwater Noise Impact Assessment that the Applicant has calculated that **the range of effect of behavioural responses in herring, based on the recommended modelled threshold of 135dB (Hawkins et al., 2014) may occur as far as 67km from the source of piling**.	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.36 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations [REP1-017]**.
2.1.75	 *Figure 8.20* Predicted worst-case behavioural response impact ranges of herring from the sequential piling of monopile foundations. Rampion 2 Environmental Statement Figure 8.20 presents the SELss contours for sequential mono-piling in the four modelling locations of Rampion Array, with noise contours presented based on the unweighted SELSS 135dB as per Hawkins et al. (2014). This is appropriate, and Figure 8.20 indicates significant overlap with the Downs herring spawning ground, as indicated by IHLS larval abundance data."[8] [8]https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117/EN010117-000477-20231106_Rampion_2_MMO_Relevant_Representation%20(002)_Redacted.pdf [The modelling evidences high sound pressure levels travelling across dozens of miles with little attenuation. This is likely to cause severe disturbance.]	The Applicant has responded to this point in Marine Management Organisation (MMO) 4.6.36 of **Deadline 1 Submission - 8.24 Applicant's Responses to Relevant Representations [REP1-017]**.
2.1.77	4.6.34 "The Applicant has acknowledged that the installation of foundations within the Rampion 2 Array Area has the potential to lead to significant injury and/or disturbance to fish species due to underwater noise generated during pile driving. UWN modelling is based on worst-case scenarios of a 13.5m diameter monopile installed with a maximum hammer energy of 4,400kJ, and for a 4.5m diameter pin pile installed with maximum hammer energy of up to 2,500kJ. Tables 8.20 and 8.21 outline the likely impact ranges for mono- and pin-piling at the south location, carried out as a single piling scenario and sequential piling scenario. Likely impact ranges for mortality and potential mortal injury (207 Sound Exposure Level, cumulative (SELcum)), recoverable injury (203 SELcum), and temporary threshold shift (TTS) (186 SELcum) for stationary fish receptor, as per the pile driving threshold guidelines described by Popper et al. (2014) have been presented."	The Applicant can confirm that the point made by the Marine Management Organisation (MMO) is acknowledged in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**.

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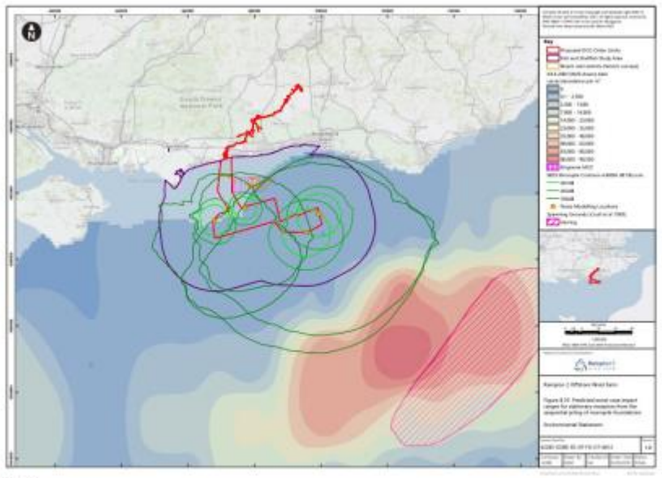
2.1.78	 *Figure 8.19* Predicted worst case impact ranges for stationary receptors from the sequential piling of monopile foundations. Rampion 2 Environmental Statement The Sound Exposure levels cumulative or otherwise, are likely to be much higher than these.	The Applicant would be grateful to receive the modelling or calculations undertaken by Constructive Heritage that demonstrate this to be the case. The modelling for Figure 8.19, **Chapter 8: Fish and shellfish ecology - Figures, Volume 3** of the ES **[APP-081]** was undertaken using the INSPIRE underwater noise modelling software, which is approved by the Marine Management Organisation (MMO), and regularly updated with real-world data.
2.1.79	"The installation of driven piles in the marine environment without mitigation is likely to produce noise levels capable of causing injury and disturbance to marine mammals." "Such effects, although incidental to consented activities, have the potential to conflict with the legislative provisions of The Conservation of Habitats and Species Regulations 2010 (the 'Habitats Regulations', HR), which applies to English and Welsh waters inside 12 nautical miles (nm), and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (the 'Offshore Marine Regulations', OMR, as amended 2009 and 2010), which apply on the United Kingdom Continental Shelf."[9] [9]https://data.jncc.gov.uk/data/31662b6a-19ed-4918-9fab-8fbcff752046/JNCC-CNCB-Piling-protocol-August2010-Web.pdf The Conservation of Offshore Marine Habitats and Species Regulations 2017 "UK Regulations make it an offence to kill, injure or disturb marine European Protected Species (EPS) in UK waters, which includes all cetaceans. Compliance with JNCC's mitigation guidelines is considered best practice and will, in most cases, reduce the risk of deliberate injury to marine mammals to negligible levels."	The Joint Nature Conservation Committee (JNCC) Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise, and the legislative requirements regarding impacts on European Protected Species, are understood by the Applicant, and have been incorporated into the **Draft Piling Marine Mammal Mitigation Protocol [APP-236]**, which is secured in Part 2, Condition 11 (1) (l) Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**.
2.1.81	Although not statutory consultees on this occasion, the JNCC have responsibility with the offshore environment, after 12nm, rather than inshore waters, between 8-12nm, in which Rampion 2 'Offshore' Windfarm would be situated. However, as sea life would frequently cross between these distances, and the sound effects not contained within the 12nm limit, then the JNCC's recommendations on this subject should be referred to.	As noted above and in the email below received by Constructive Heritage LLP, Joint Nature Conservation Committee (JNCC) were invited to consult on Rampion 2. They responded with the following: "*Thank you for contacting JNCC regarding the Rampion 2 windfarm project. As the Rampion 2 windfarm project is located inshore (within 12nm from shore) and therefore within the territorial limits, this falls outside of JNCC's offshore remit and Natural England would be the relevant Statutory Nature Conservation body*." The Applicant refers Constructive Heritage to its response to 1.2.15 above, however it is important to reiterate that the JNCC has delegated its role as the Statutory Nature Conservation Body (SNCB) for offshore renewable energy

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		projects (wave, wind and tide) in English offshore waters, outside 12nm, to Natural England. This means that all provision of advice on renewable energy projects in inshore and offshore waters, adjacent to England (0- 200nm), is provided by Natural England rather than being split between JNCC and Natural England at the 12nm boundary. The Applicant confirms, however, that it follows guidance from the JNCC as relevant, notably including in the assessment presented in **Chapter 11: Marine mammals, Volume 2** **[APP-052]** and in the development of the **Draft Piling Marine Mammal Mitigation Protocol** **[APP-236]**, which is secured in Part 2, Condition 11 (1) (l) Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**.
2.1.82	From: JNCC Offshore Industries Advice <OIA@jncc.gov.uk> Date: On Wednesday, 21 February 2024 at 13:32 Subject: 'Contact us' JNCC Rampion 2 windfarm project CC: Feedback <Feedback@jncc.gov.uk>, JNCC Offshore Industries Advice <OIA@jncc.gov.uk> Good Afternoon Carlo, Thank you for contacting JNCC regarding the Rampion 2 windfarm project As the Rampion 2 windfarm project is located inshore (within 12nm from shore) and therefore within the territorial limits, this falls outside of JNCC's offshore remit and Natural England would be the relevant Statutory Nature Conservation body. Kind regards, **Jon Connon** *Offshore Industries Advice Officer* *Marine Management Team* JNCC, Inverdee House, Baxter Street, Aberdeen, AB11 9QA Seeing that sea creatures within the 12nm mile limit would also be affected by sound and particle wave motion effects, surely guidance should also be referred to from the JNCC as appropriate?	The Applicant refers Constructive Heritage to its response to 1.2.81 above
2.1.83	"JNCC has also developed marine mammal mitigation guidelines covering key activities, adherence to which is considered to minimise the risk of committing an injury offence. When considering potential impacts to marine mammals, a key consideration is whether there might be any impacts from noisy activities, for example piling, explosive use or geophysical surveys. A noise risk assessment is undertaken, which considers how loud the noise could be, at what distance from the activity could marine mammals be injured or disturbed, what could be done to reduce the level of noise and animal exposure and whether impacts could have an effect at the population level. Typically, noise propagation modelling is undertaken to estimate distances at which hearing damage may occur. Depending on the results, mitigation may be required to ensure no marine mammals are in the vicinity before the activity begins. Regulators review these assessments and consult with country nature conservation bodies (CNCBs) including JNCC before deciding whether to consent the project. Consideration should also be given to supporting habitats and processes important to marine mammals including those that relate to the seabed, water column and prey, particularly in protected areas. For example, activities that directly impact the seabed, such as dredging/burial, sweeping and deposits, could potentially affect a preferred prey species such as sandeel, making them unavailable to marine mammals as a food source".	This is acknowledged by the Applicant, comprehensive assessments on the potential for impacts from underwater noise on marine mammals and prey species populations are undertaken in **Chapter 11: Marine mammals, Volume 2** **[REP1-004]** and **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]** respectively. The potential for indirect impacts to marine mammals from changes in prey availability are assessed in **Chapter 11: Marine mammals, Volume 2** **[REP1-004]**.
2.1.84	***Underwater noise*** Why is underwater noise a problem?	Noted, the Applicant has no further comments on this matter at this time.

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	Underwater noise from human activities can affect marine species from fish to invertebrates and to marine mammals in a variety of ways, from masking sounds used to communicate and find food, to physical injury and even death. JNCC- "Marine mammals use sound for a number of biologically important behaviours, including foraging, avoiding predators, breeding, socialising, parental care and travelling. Man-made underwater noise has the potential to hamper or prevent marine mammals from undertaking these key behaviours. For example: • an animal could stop hunting for food; • noise could prevent an animal from hearing other important sounds, such as the approach of a predator or communications from mates or their young; • noise may force animals away from important areas such as key foraging grounds (i.e. cause displacement). • In addition, some loud sounds may cause physical injury, such as hearing loss or tissue damage, and in some cases may cause death. Effects may be temporary and be of little consequence to an individual animal or conversely, they could directly impact an individual's ability to survive or breed, particularly if an animal is subjected to repeated exposures to noise. If many individuals are affected, this could result in population-level impacts (i.e. a reduction in population size)."	
2.1.85	The Conservation of Habitats and Species Regulations 2017 "The term European Protected Species (EPS) originates from the Habitats Directive and refers to species listed in Annex IV. For these species, member states are required to implement measures to prevent their capture, killing or disturbance throughout their natural range. Similar legislation exists for Scottish and Northern Irish inshore waters. EPS whose natural range includes UK waters consist of cetaceans (whales, dolphins and porpoises), marine turtles and Atlantic sturgeon. In UK waters, the latter two are at the limit of their natural range and only occur in low numbers around the UK. UK Regulations make it an offence to kill, injure or disturb marine EPS.JNCC, Natural England and Natural Resources Wales (formerly the Countryside Council for Wales) provided guidance regarding the protection of cetacean EPS from injury and disturbance. This guidance* provides a useful resource for marine users, regulators, advisers and enforcement authorities when considering whether an offence of deliberate disturbance or injury/killing a cetacean EPS is likely to or has occurred as a result of an activity." "**Projects that include piling over a prolonged period could constitute disturbance under UK Regulations" (JNCC et al. 2010)**	The Conservation of Habitats and Species Regulations 2017 are understood by the Applicant, this is set out in Table 11-1 Legislation relevant to marine mammals, of **Chapter 11: Marine mammals, Volume 2 [REP1-004]**. A full European Protected Species (EPS) risk assessment for disturbance will be conducted post consent once the final piling parameters are known. This risk assessment will inform the requirement for an EPS license.
2.1.86	JNCC Guidelines- "In areas outside (but also within) the SACs, operations/projects with the potential to result in injury or disturbance can only go ahead if mitigation measures can be employed in order to reduce the risk to individual animals. To reduce the risk of hearing damage in the immediate area around the noise sources, measures such as a 'soft start', marine mammal observers enforcing mitigation zones and acoustic deterrent devices are routinely employed. It is more challenging to reduce the risk of disturbance at larger ranges and therefore an activity can only go ahead with a licence under the EPS regulations. Licences should only be issued when there are no satisfactory alternatives (alternative methods that would not cause disturbance) and if the activity does not have an effect on a species' FCS. All projects that could result in disturbance according to the EPS regulations will need to undertake an assessment of the impacts on the species' FCS from the project alone and in combination with others. If an impact cannot be ruled out, then the project cannot not be licensed as planned. For those licences that are issued, it is incumbent on competent authorities to monitor the effect of these on	The reiteration of advice from Joint Nature Conservation Committee (JNCC) website has been noted, the Applicant has no further comments on this matter at this time.

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	the population(s) of the species to ensure that there is no detriment to FCS from cumulative effects of the licences."	
2.1.87	**Background to the advice on noise management within harbour porpoise SACs in England, Wales and Northern Ireland JNCC Report No. 653** - "Population consequences models such as DEPONs (Disturbance Effects on the Harbour Porpoise Population in the North Sea) and iPCoD (interim Population Consequences of Disturbance model) can be very useful in helping understand the mechanisms and magnitude of effects of disturbance and to compare different disturbance scenarios and may help, together with other available evidence, inform wider scale population level assessments. For example, work commissioned by NE and JNCC used iPCOD and estimated that the risk to the North Sea harbour porpoise population from English offshore windfarms is low, but outcomes are heavily dependent on a range of assumptions and estimated parameters with considerable associated uncertainty. The use of these models in the context of assessing effects on harbour porpoise SAC site integrity, namely when addressing the CO on avoiding significant disturbance was considered not appropriate. One issue is that the number of animals affected (even if it could be robustly determined) would need to be assessed against a "site population". However, the variability in numbers within the site at any one time varies given the wide ranging and mobile nature of the species and so there is no such thing as 'site population'. In addition, as EC Guidance*1 states: 'The expression 'integrity of the site' shows that the focus is here on the specific site. Thus, it is not allowed to destroy a site or part of it on the basis that the conservation status of the habitat types and species it hosts will anyway remain favourable within the European territory of the Member State.' In this case we are not faced with destruction of a site but with temporary habitat loss, nonetheless the principle is the same - model predictions on the potential effects on the Favourable Conservation Status (FCS) of the species in UK waters, whilst useful context under Environmental Impact Assessment (EIA)/ European Protected Species (EPS) assessments in particular, do not provide the robust evidence that would allow us to conclude no 'significant disturbance' of the species within the site. The key here is to devise an approach to assess whether the site is contributing in the 'best possible way to achieving FCS'. b) Temporary habitat loss The second approach considers that assessments, and consequently management, could be couched in terms of loss of habitat to harbour porpoise within the site. This seemed a more logical approach given that sites are designated for the "habitats of the species"; **EC Guidance on article 6.4. considers that that significant disturbance of a species in a Natura 2000 site could be: 1. Any event which contributes to the long-term decline of the population of the species on the site can be regarded as a significant disturbance 2. Any event contributing to the reduction or to the risk of reduction of the range of the species or reduction of the size of the habitat within the site can be regarded as a significant disturbance**."[10] [10]https://data.jncc.gov.uk/data/2e60a9a0-4366-4971-9327-2bc409e09784/JNCC-Report-653-FINAL-WEB.pdf	The reiteration of advice from Joint Nature Conservation Committee (JNCC) website has been noted, the Applicant has no further comments on this matter at this time.
2.1.88	"A habitat-based approach is also part of impulsive noise management in Germany, in addition to the dual legal threshold value for impulsive noise sound level (190dB SPL/160dB SEL at 750m). To limit disturbance, the sound level thresholds were coupled with additional spatial thresholds to ensure there were enough areas unaffected by noise from pile driving available for harbour porpoises. No more than ten per cent of the area of the Economic Exclusive Zone (EEZ) in the German North Sea can fall within the disturbance radiuses. Additionally, within MPAs with porpoise as qualifying feature, no more than 1% of the site is to be located within the disturbance radius during May – August (defined as breeding season)2 . 3. Effective Deterrence Range (EDR) Questions have been raised by stakeholders regarding the use of fixed Effective Deterrent radii in the guidance; this has subsequently led to amendments of the guidance to consider additional EDRs based on available scientific evidence for pin piles, conductor	The text taken from Joint Nature Conservation Committee (JNCC) website has been noted, the Applicant has no further comments on this matter at this time.

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	piling, piling using noise abatement and high-resolution geophysical surveys. These EDRs are considered the initial starting point for consideration in any environmental assessments. Case-by-case EDRs may be considered, providing there is robust peer-reviewed evidence on which to do so. Field studies looking at porpoise abundance and behaviour around these activities are needed to validate the EDRs. In German waters, a fixed distance is also advised; the disturbance range is defined as a radius of 8 km around the centre of an offshore wind farm. This distance is deemed equivalent to a sound exposure level of approximately 140 dB re 1µPa²s. The current SNCB advice for England and Northern Ireland favours the use of fixed EDRs based on empirical evidence as opposed to disturbance ranges estimated from noise modelling. The latter carries considerable uncertainty, in particular: there are no agreed quantitative thresholds for disturbance as there are for auditory injury; depending on the choice of numerical models to estimate sound source and propagation one can end up with several orders of magnitude different predictions for disturbance ranges; received sound levels are not the single most influencing factor in triggering disturbance; other characteristics of sound and how they propagate with distance will influence how an animal perceives the noise; behavioural context, individual animal motivation and previous exposure will also all play a role in determining response."	
2.1.89	**Noise abatement techniques and alternative foundations for wind farms**- "Techniques to abate noise at source and alternative foundations have been raised by stakeholders as a potential management measure to reduce disturbance in the sites. The SNCB approach has been criticised for not incentivising the use of noise mitigation through limits (as per German approach). However, the German sound thresholds (e.g. 160db SEL at 750m) were imposed to address the risk of injury and not disturbance. In the UK this is dealt with via a suite of mitigation measures, such as the use of marine mammal observers and acoustic deterrent devices focussed on minimising the risk of animals occurring in the potential auditory injury zone. In relation to disturbance, there has been no requirement for noise abatement since the previous rounds of wind farm installation were of a considerably smaller scale than current ones and there were no sites designated for harbour porpoise. With the increase in scale of current and future offshore wind installation rounds overlapping with a site designated to protect harbour porpoise habitats it has become likely that without alternative methods of installation not all projects can go ahead as planned if these are to meet the SNCBs' area-time thresholds. There is therefore an incentive to implement noise abatement measures/ alternative foundations. These should be considered alongside other options, such as scheduling of piling operations. "In 2013, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) developed a concept for the protection of harbour porpoise in the North Sea. The aim is to protect the habitats of the animals from impact noise by avoiding cumulative effects. The input of sound into the marine environment as well as the effective range can be greatly reduced by the use of technical noise abatement systems. Binding noise protection values apply to impulsive noise emissions from pile driving at a distance of 750 m from the source (binding in BSH approval notices since 2008). Noise protection values for ramming. The noise protection value for impact sound in BSH approval notices, which has been binding since 2008, is defined as a dual criterion. At a distance of 750 metres from the pile-driving point, the following limits may not be exceeded:unweighted broadband single event level (SEL) von 160 dB re 1µPa2speak level (Lp,pk) of 190 dB re 1µPa" [Current peak level of 13.5m diameter pile 240 dB re 1µPa]	Text taken from *Background to the advice on noise management within harbour porpoise SACs in England, Wales and Northern Ireland* (Joint Nature Conservation Committee (JNCC), 2020). The Applicant would like to highlight that noise abatement measures, in addition to the use of marine mammal observers and acoustic deterrent devices are proposed for the Rampion 2 development. These are set out in the **Draft Piling Marine Mammal Mitigation Protocol [APP-236]**, which is secured in Part 2, Condition 11 (1) (l) Schedules 11 & 12 of the **Draft Development Consent Order [PEPD-009]**. It is reiterated that 240 dB is a theoretical noise level at 1 m from the pile, and the German guidance is targeted at 750 m from the pile, after noise abatement.
2.1.92	"Frequency-dependent reduction of the sound emission Technical noise abatement systems, used individually or in combination, may reduce the sound exposure level (SEL) by more than 20 dB. The reduction in noise emission from pile driving depends on the frequency range. Reduction in higher frequency ranges (kHz range) is particularly important for the protection of harbour porpoise. Noise	The text from German BSH website has been noted, the Applicant has no further comments on this matter at this time.

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	reduction is achieved by using various techniques. These include the Big Bubble Curtain, the IHC Noise Mitigation Screen or the Hydro-Sound-Damper."[11] [11]https://www.bsh.de/EN/TOPICS/Offshore/Environmental_assessments/Underwater_sound/underwater_sound_node.html	
2.1.93	"Due to the vicinity of the edge of the site to Kingmere MCZ, mitigation may still be necessary to reduce the underwater noise to 141 dB SEL within the closest proximity array area to the MCZ. Note the attenuations suggested are only intended as indicative targets to be determined with detailed future investigation based on site specific conditions and parameters. The following generic performances of mitigation options being explored are offered as a guide (although other emergent technology and suppliers may also be considered, prior to any commitment to which if any mitigation would be applied):" • IHC Pulse hammer (4-6 dB reduction) • MENCK MNRU hammer (9-11 dB reduction) • Double bubble curtain (potential 15 dB reduction) • Double bubble curtain and MENCK MNRU hammer (potential 25 dB reduction)[12]. Not enough mitigation or combination of available to reduce levels to MMO recommendations. Noise modelling should also take into consideration worse case scenario, should mitigation not be efficient enough. [12]https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117/EN010117-000297-6.4.8.3%20Rampion%202%20ES%20Volume%204%20Appendix%208.3%20Underwater%20noise%20study%20for%20sea%20bream%20disturbance.pdf	Constructive Heritage again misunderstand the acoustic principles and MMO recommendations. They have compared SPL_{peak} and SEL and appear to have calculated the attenuations incorrectly. Please see comments above detailing the correct application of the suggested MMO threshold for Kingmere MCZ.
2.1.94	Application of guidance in UK waters The guidance is advice from JNCC, NE and DAERA and therefore it applies to UK offshore areas, English and Northern Irish waters (within 12nm). - 3.1.3 "The ES concludes that No Significant effects will arise from the construction, operation and maintenance, and decommissioning of the Proposed Development, as a consequence of the embedded environmental measures provided in the Commitments Register (Document Reference 7.22). Therefore, with these measures in place a statutory nuisance will not arise as a result of the Proposed Development."[13] [13]https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010117EN010117-000133-5.3%20Rampion%202%20Statutory%20Nuisance%20Statement.pdf	The text taken from **Statutory Nuisance Statement [APP-032]** has been noted, the Applicant has no further comments on this matter at this time.
2.1.95	**Audible and masked sounds from operation across the water** The cumulative sound effect of up to 90 325m high turbines creating a sonic array system, including low frequencies and infrasound. The array of turbines will create more noise the faster they turn. The coupling effect of these will create a wide affected area of constant noise when they operate. If sited farther out, it would be of less significant effect to users of the sea and people living on the coast as the wind and effects of wave motion would absorb much of it. However, whilst absolute numbers for operating noise are not generally available, the principles of sound propagation are such that if the wind is going towards land, and the noise levels are of a high enough amplitude, then the sea will act as a great carrier wave (hard surface) and benefit that transmission. The idea is similar as to how analogue radio frequencies propagated over long distances, use a longer frequency to 'piggy back' the shorter wavelength farther. The higher frequencies above the waves will be attenuated more so than the lower frequencies, but the infrasound carried this way broadcast over time could literally depress the well being of coastal communities, being so close to the source of that low frequency generation and even severely diminish the enjoyment of the area.	The Applicant is not aware of any evidence of any operational offshore wind turbine being audible or disturbing at the coast. Acknowledging the difference in size, to our knowledge there have been no concerns raised over noise from the Rampion 1 wind farm that has been operating since 2017.

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	Sound propagates very efficiently over water, it is both reflected by the sea and refracted by wind shear (wind speed increases with height above sea level). The sound waves would benefit from the masking and carrier wave effect of the sea and tides to send constant low frequency signals across the water towards our communities and visitors, adding to even more Net Loss. Please consider the affected communities above and below the waterline including potential effects on divers as the infrasound continues underwater.	
2.1.97	The Damage Noise at certain frequencies and amplitudes can cause to a diver in the water Loud noise (above 55 dB) can cause non life threatening issues such as: • loss of focus • diminished cognitive abilities • increased stress levels Loud noise (above 85 dB) can cause: • tinnitus • hearing damage • hearing loss • increased blood pressure levels • cardiovascular issues Loud noise (above 150 dB) can cause: • eardrum rupture • pulmonary contusions • embolisms Infrasound or low frequency noise (below 20 hertz) can cause • blurred vision • erratic breathing • joint issues • nausea • visual impairment • inner organ damage 7 hertz infrasound (the frequency of the brain and the internal organs) can affect the human central nervous system and cause • general confusion • anxiety and panic • bowel spasms • nausea and vomiting	This text is taken from Decibel Meter Pro, 2024 and relates to the potential impacts on humans of airborne noise, not underwater noise, and has no relevance to the offshore elements of the Proposed Development.

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	• organ rupture • death (in cases of prolonged exposure) • Sounds that could kill you on the spot • sounds above 185 dB • infrasound especially at 7 Hz	
2.1.98	When the volcano on Krakatoa erupted in 1883, the energy created was registered by a survey vessel 40km away from source. The noise level, recorded at 185 dB, burst the eardrums of half the crew onboard the vessel. The potential negative effects from noise are so severe and varied it might be perceived as an experiment in human behaviour through subduing a stretch of the coastal community by the constant emissions of negatively charged high pressure sound generation for the life of the proposed project. The opinion is that the noise levels have been underplayed as current levels experienced at similar size sites are recording much higher levels, 240 decibels ½ mile away from the source. This would mean that excessive sound pressure levels would radiate omnidirectionally across the whole of the Sussex Bay, everywhere, with minimum dissipation, in a matter of seconds	The Krakatoa eruption is believed to be the loudest airborne sound ever generated and was estimated to be 310 dB SPL at source. Krakatoa produced the equivalent force of a 200-megaton bomb and was four times as powerful as the largest ever human produced thermonuclear explosion, the Tsar Bomba, in 1961 (American Academy of Audiology, 2024). The Proposed Development will not generate sound levels of this magnitude. The belief that the noise will be 240 dB half a mile from the source derives from a misunderstanding of the Thrown to the Wind video (Michael Shellenberger, 2024) provided by Constructive Heritage (this level could be present in the water immediately adjacent to a pile), should not be compared to a historic estimation of an airborne noise level, and sound produced during construction will evidently not be present for the life of the Proposed Development.
2.1.99	The ES references do not take into account that the 325mtr supported monopile is much larger than previously used, and the mitigation measures such as use of 'double bubble' screens, reduce some of the compression, maybe by about 20db (when they work).	The Applicant would like to clarify that **Appendix 11.3: Underwater noise assessment technical report, Volume 4 [APP-149]**) does take into account the scale of the monopiles, specifically in reference to the size of the foundation and the power output, as well as accounting for bubble curtains.
2.1.100	**Gaps in data / more evidence needed** Excessively high spl levels according to current data especially considering how close and big they are.	Modelling has been requested to determine impacts that have been discussed above and have been legitimately scoped out of the study (e.g. modelling inaudible frequencies). Detailed modelling has been undertaken to specifically determine the effect and transmission through water of all high sound level sources. The Applicant requests further clarity on this point from Constructive Heritage.
2.1.101	No underwater sound maps outlining piling propagation data over distance including decay rates. No cumulative mapping of turbines with sound frequencies generated and propagation levels during operation and how these can affect certain aquatic life, not just the protected ones.	The Applicant can confirm that the underwater noise modelling in **Appendix 11.3: Underwater noise assessment technical report, Volume 4 [APP-149]** provides piling propagation data over distance in respect of suitable criteria and thresholds for calculation of noise impact to all relevant species groups.
2.1.102	Modelling on: - sound propagation over water as an array, frequencies and amplitudes generated and its potential effect on shore (human) receptors. - infrasonic issues with fish and inaudible frequencies potentially affecting divers long term. - ultrasonic issues especially with mammals such as bats.	Offshore piling at onshore receptors has been assessed in Paragraph 21.9.75 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** which states "The worst-case noise level predicted at the nearest onshore noise sensitive receptor to the offshore piling is 34 dB. This level is below the BS 5228-1 (BSI, 2014) thresholds representative of a Very Low magnitude of change for all time periods". As such, the piling noise may be audible, but will not be significant. Inaudible infrasound issues have been considered earlier in this response.

Ref	Written Representation Comment	Applicant's Response
		Constructive Heritage have misunderstood the noise issue with bats. This involves changes in static pressure in the air that can harm bats and has no connection with ultrasound. A preliminary investigation (Szewczak and Anett, 2006) showed no evidence that any significant ultrasound is produced in air by wind turbines that could lead to issues with bats.
2.1.103	National Library of Medicine publishing Airborne sound propagation over sea during offshore wind farm piling - Abstract -"Offshore piling for wind farm construction has attracted a lot of attention in recent years due to the extremely high noise emission levels associated with such operations. While underwater noise levels were shown to be harmful for the marine biology, the propagation of airborne piling noise over sea has not been studied in detail before. In this study, detailed numerical calculations have been performed with the Green's Function Parabolic Equation (GFPE) method to estimate noise levels up to a distance of 10 km. Measured noise emission levels during piling of pinpiles for a jacket-foundation wind turbine were assessed and used together with combinations of the sea surface state and idealized vertical sound speed profiles (downwind sound propagation). Effective impedances were found and used to represent non-flat sea surfaces at low-wind sea states 2, 3, and 4. Calculations show that scattering by a rough sea surface, which decreases sound pressure levels, exceeds refractive effects, which increase sound pressure levels under downwind conditions. This suggests that the presence of wind, even when blowing downwind to potential receivers, is beneficial to increase the attenuation of piling sound over the sea. A fully flat sea surface therefore represents a worst-case scenario."[14] [14]National Library of Medicine publishing Airborne sound propagation over sea during offshore wind farm piling, T Van Renterghem, D Botteldooren, L Dekoninck, PMID: 25234870 DOI: 10.1121/1.4861244 Accessed 21/02/24	Offshore piling at onshore receptors has been assessed in Paragraph 21.9.75 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** which states "*The worst-case noise level predicted at the nearest onshore noise sensitive receptor to the offshore piling is 34 dB. This level is below the BS 5228-1 (BSI, 2014) thresholds representative of a Very Low magnitude of change for all time periods*". As such, the piling noise may be audible, but will not be significant.
2.1.104	Turbines would need to be sited much further from the shore (or somewhere with greater wind density, a connection to the National Grid without going through a National park) to have less of an impact, namely respecting the OESEA guidelines and a minimum distance to be 20-25 miles offshore, not inshore. Most of our aquatic environment lives inshore in reefs etc. Local environmentalists and divers have revealed seahorse habitats all along the Sussex coast, from near Beachy Head, to Brighton and also Littlehampton harbour.	The Applicant has responded to the point about OESEA guidelines in detail in response 2.18.2 Applicant's Response to Kingston Parish Council and 2.21.1 Applicant's Response to Pagham Parish Council in **Deadline 1 Submission - 8.24: Applicant's Responses to Relevant Representations [REP1-017].**
2.1.106	Proposed piling mitigation such as a 'soft start' doesn't remove all creatures from affected areas. They will not be able to get away in time or find safe refuge from the sonic blasting. We have reports of the compression generated underwater during the construction of Rampion 1, which ensured the relevant divers had to leave their own survey areas many miles away from the noise source quickly due to the intense pressure created during piling.	The soft start is not expected nor intended to remove all creatures from an affected area. It primarily benefits marine mammals, which will swim away from the high noise when the piling is at its lowest energy to aid them to be as far as possible when the highest sound levels are present.
2.1.107	If Rampion 2 gets permission, we expect to lose a lot of our aquatic diversity through destructive construction measures. There is no proposal for any Net Gain for the environment or biodiversity.	The Applicant has committed to deliver at least 10% biodiversity net gain (BNG) (see **Appendix 22.15 Biodiversity Net Gain Information, Volume 4** of the ES **[APP-193]** and commitment C-104 of **Commitments Register [APP-254]**) BNG is secured via Requirement 14 of the **Draft Development Consent Order [PEPD-009]**. Whilst Marine Net Gain is not currently mandated in the same way as onshore (terrestrial) biodiversity net gain, in recognition of the principles set out in the

Ref	Written Representation Comment	Applicant's Response
		NPS EN-1 (Department for Energy and Net Zero (DESNZ), 2023a) that came into force in 2024, the Applicant is currently exploring opportunities to partner with organisations who are able to deliver marine benefits in the region.
2.1.109	**We would like to see the ExA**: Require the applicant to present another, more detailed risk assessment and addendum to the ES adding current noise level data for construction and operation and provide specific mitigation measures rather than ambiguity and reassurances. (1) specify, completely assess and monitor future safe operating noise levels and to ensure strict adherence to levels such as stated in the Marine Management Organisation's recommendations, namely a maximum of 135dB(A) re 1 µPa (inc mitigation) during construction. For the applicant to evidence capacity to achieve MMO levels. Reference EN010117-000477-20231106_Rampion_2_MMO_Relevant_Representation (002)_Redacted. Section 4. Page 44.	Noted, the Applicant has no further comments on this matter at this time.
2.1.110	(2) not take the applicants claims regarding max decibel numbers as offered in the Environmental Statement, (taken from a much smaller piling conducted in 2007), but consider them against current real world data for size turbine/monopile. Have the applicant evidence reliable mitigation measures to ensure safe levels are achievable prior to the granting of any permissions. Consider higher levels than MMO guidelines to be unsafe for divers. The sonic blast for a 13.5m monopile (240 dB(A) re 1 µPa will cause unprecedented noise levels over the water and under it and due to a greater extended noise period be potentially much more dangerous to all forms of life. Excessive noise levels would mean that it would not really be safe for divers until after piling has ceased. By way of mitigating construction noise 'most divers wear a hood' (recommended by the applicant's representative on this subject at the Planning Inspectorate hearing). A hood won't be much use if your ears burst. High levels of sound can carry for miles. From a noise pollution perspective an improved solution might be to look at floating technology, so close inshore is this proposal with such a potential to cause severe disturbance. A pile of 13.5m pile and method of siting could cause much damage to the underwater life and environment and would be a huge detriment to our biodiversity during construction.	The data used to inform the Environmental Statement are not taken from much smaller piling conducted in 2007. The modelling used (undertaken using the INSPIRE underwater noise modelling software, which is approved by the Marine Management Organisation (MMO), and regularly updated with real-world data) references over 80 datasets of piling data taken up to 2022. The parameters used to inform the modelling reflect the maximum design scenario considered in the application and assessed in the ES i.e. 13,5m diameter monopiles and 4,5m diameter pin piles with corresponding maximum hammer energies of 4,400kJ and 2,500kJ respectively. The final mitigation, which will be implemented during the construction of the Proposed Development, will be informed by modelling using the best available data at the time it is undertaken (this will be conducted pre-construction, when the detailed design has been completed). The MMO recommendations are for fish and should not be confused as recommendations for divers. Constructive Heritage does not state what this noise would "potentially be much more dangerous" than? If it is more dangerous than the modelling predictions, it has not provided evidence of this. The Applicant reiterates that the 240 dB figure, at a worst case, could only be present immediately adjacent to the pile during piling at the highest hammer energies, and thus would cover a very small area of water.
2.1.111	(3) there should be a project cut off point if noise levels are deemed to be too high to allow construction of this nature so close inshore and so near to sensitive marine receptors, protected species and conservation areas. To refuse consent if suitable methods of mitigation cannot be obtained. Consider the figure of 135dB(A) re 20 µPa as the threshold of pain in humans. Evidence shows excessive levels and/or certain frequencies can affect life detrimentally in many ways, in the sea this noise effect can easily carry for tens of miles.	The Applicant has committed to employ suitable methods of mitigation, these are set out in the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, which is secured in Part 2, Condition 11 (1) (k) Schedules 11 & 12 of the **Draft Development Consent Order [PEPD-009]** and the **Outline Diver Communication Plan [APP-242],** and these will be agreed with the relevant authorities.

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		The MMO recommendation of 135 dB re 1 µPa is a behavioural noise threshold for fish and should not be confused with a recommendation for divers/ humans. It is not the same as 135 dB(A). It is worth noting that this is roughly equivalent to 197 dB re 1 µPa SPL, which is estimated to occur within 100 m of the pile, and well within the proposed exclusion zone for divers. Noise levels lower than this are likely to be unpleasant and could potentially lead to an impact on hearing although as Constructive Heritage has stated that divers rapidly exited the water on previous occasions, this would limit any risk of adverse impact. Diving hoods act as noise attenuators.
2.1.112	(4) Concern that noise levels purported during construction/piling are heavily underplayed. Measured noise levels (with mitigation) now coming out of other similar size offshore wind farm construction is at levels reaching up to 240dB(A) re 1 µPa during piling. To model more accurate data on noise levels above and below the waterline, propagation (extrapolation including baseline of 240dB(A) re 1 µPa pile strike), individual turbine and cumulative array (frequency and amplitude) modelling to include wave and wind shear with relation to on shore noise receptors.	Constructive Heritage misunderstands the use of acoustic values and has confused a number of situations in this statement. Detailed modelling that includes recent data from up to 2022 has been undertaken. 240 dB (construction in water) is not related to modelling including wave and wind shear (in air), or cumulative arrays (during operation) and operational noise (which is negligible).
2.1.113	(5) OWF of this size should ideally be sited much farther out, more than 25 miles from land and ideally the same minimum safe distance away from any Marine Conservation Zones and protected spawning grounds. An alternative could be Dogger Bank, farther out and of greater wind density than the Sussex Bay, (as agreed by the applicant's representative in the relevant Hearing).	Noted, the Applicant has no further comments on this matter at this time, beyond referring Constructive Heritage to its response to 2.1.9 in relation to the siting of the Proposed Development and to highlight relevant UK Government policy: National Policy Statement (NPS) EN-1 (Department for Energy Security and Net Zero (DESNZ), 2023a) and EN-3 (DESNZ, 2023b), the net zero by 2050 commitment (DESNZ, 2022), and the UK government's commitment to deliver 50GW of offshore wind by 2030, as set out in the UK Government's British Energy Security Strategy (UK Government, 2022). The Applicant would note that a number of projects on the Dogger Bank are already consented and future applications soon to be made and neither these, nor future applications in the southern North Sea, provide sufficient capacity to achieve the Government's targets alone. The Proposed Development will make a significant contribution to achieving such. The Applicant would further highlight that the Sussex Bay area is suitable for offshore wind from a generation efficiency perspective, as evidenced by the operational performance of Rampion 1, and as noted at Issue Specific Hearing 1.
2.1.114	(6) This Application does not meet basic standards for sustainability – ecological, social, and economic-socially it is not beneficial nor any form of net gain to use an already economically depressed community to become host of an industrial power plant-the mental health degradation of an obstructed horizon of electrical turbines creating a high decibel, low frequency sonic array. The permanent reminder of their presence through red flashing light disturbance at night.-degradation of the local area, historic environment, the views from the South Downs National Park	Noted, the Applicant has no further comments on this matter at this time.
2.1.115	(7) Concern for aquatic life and health during construction. Most aquatic life would be affected, displaced, some will not relocate, many are habitat based. It is a myth that any aquatic life can just leave the affected area, larger mammals of course but not for example the seahorse, which are living at various places along the Sussex Bay. The areas affected by construction noise can run into many miles in size. Taken from Natural England and JNCC advice on key sensitivities of habitats and Marine Protected Areas in English Waters to offshore wind farm cabling within Proposed Round 4 leasing areas September 2019- "Kingmere MCZ. This MCZ is designated for Black bream (Spondyliosoma	The Applicant confirms that a full assessment of potential impacts to marine life has been undertaken, as reported in the ES. The Applicant would highlight that all impacts have been subject to detailed assessment in terms of the significance of effect arising from those impacts, and importantly based on available evidence.

Ref	Written Representation Comment	Applicant's Response
	cantharus), infralittoral rock and thin mixed sediment, and subtidal chalk. All features have a recover conservation objective. Cabling impacts to this MCZ should be avoided on the basis of impacts to nesting black bream and their breeding habitat which is rock covered in a thin layer of sediment. Impacts to the rock habitat are not able to recover morphologically. The breeding season is currently understood to be April 1st to June/July; during which time there is high sensitivity to smothering and siltation rate changes. Consideration should also be given to avoiding noise impacts out with the MCZ during nesting periods for black bream. It is considered that there is little space in the MCZ to micro-route around these sensitive habitats given existing aggregates licence areas within the sites and the need to also avoid impacts on sensitive chalk habitat."	The Applicant confirms that a detailed and precautionary assessment of the potential impacts on fish and shellfish receptors from the development has been undertaken in **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]**. Impacts to black seabream arising from all of the noted sources are assessed in Sections 8.9, 8.10, and 8.11 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. Embedded mitigation measures to reduce the magnitude of impacts from underwater noise, suspended sediment, direct disturbance, and habitat loss have been summarised in Table 8-13 of **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]** and are detailed in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**. As detailed in **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]**, following the implementation of the proposed embedded mitigation, no significant effects will occur from the proposed development on sensitive features. As detailed in the **In Principle Sensitive Features Mitigation Plan** **[APP-239]** (as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**), the Applicant has committed to the routing of the offshore Export Cable Corridor ensure micrositing where possible to identify the shortest feasible path avoiding subtidal chalk and reef features and areas considered to potentially support black seabream nesting (C-269). The cable routeing design illustrated in Figure 5.1 of the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]** is based on the best available current data and demonstrates that there is the potential for the design mitigation to avoid impacts to the majority of sensitive features. The assessment and mitigation plan recognise the potential for some features to be unavoidable, however further mitigation as set out in the Plan will be applied as far as possible to ensure that where impacts are unavoidable, these are appropriately minimised. Further refinement of the routeing design will be provided on the basis of the detailed pre-construction survey data, which will establish a contemporary and definitive basis for the micrositing measures. Furthermore, as informed by the outputs of the physical processes assessment (**Chapter 6: Coastal processes, Volume 2** of the ES **[APP-047]**), the Applicant has committed to a seasonal restriction, to ensure Offshore Export Cable Corridor installation activities are undertaken outside the black seabream breeding period (March-July) to avoid any effects from installation works on black seabream nesting within or outside of the Kingmere MCZ (C-273). The Applicant has also committed to maintaining a working separation distance wherever possible from sensitive features, notably black seabream nesting areas, to limit the potential for direct and indirect impacts to arise (C-270). The Applicant has also committed to the implementation of various noise abatement measures, inclusive of a piling restriction from March through to June in the western area, the implementation of a piling sequencing plan in July, and the use of at least one offshore piling noise mitigation technology for the whole piling campaign.

Ref	Written Representation Comment	Applicant's Response
2.1.116	**Rampion 2 ES Marine Archaeology Chapter 16** - Paragraph 5.9.25 "When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. This is irrespective of whether any potential harm amounts to substantial harm, total loss, or less than substantial harm to its significance." The Sussex Bay is a nationally significant heritage asset and its natural conservation should be of the highest importance.	The Secretary of State will determine the weight to be attributed to the Proposed Development, during the Determination period, following Examination.
2.1.117	Rampion 2 statutory nuisance statement - 3.1 "Noise and vibration 3.1.1 The potential impacts and mitigation for this nuisance have been informed by the noise and vibration impact assessment which is presented in Chapter 21: Noise and vibration, Volume 2 of the ES (Document Reference 6.2.21). 3.1.2 The ES considers the impacts that could lead to potential Significant noise effects arising from: - noise emissions from the construction and operation of temporary construction compounds; - noise emissions from construction of landfall Transition Joint Bay and trenchless crossings; - noise emissions from onshore substation and the existing National Grid Bolney substation extension during construction and operation; and - noise emissions from trenched onshore cable routing. 3.1.3 The ES concludes that No Significant effects will arise from the construction, operation and maintenance, and decommissioning of the Proposed Development, as a consequence of the embedded environmental measures provided in the Commitments Register (Document Reference 7.22). Therefore, with these measures in place a statutory nuisance will not arise as a result of the Proposed" Understanding greater impacts from noise, would the levels from all phases of operation be interpreted as a statutory nuisance?	The Applicant notes that, as set out within the **Statutory Nuisance Statement [APP-032]**, with the proposed mitigation measures in place as set out in Section 3 of the document, it is not anticipated there will be any statutory nuisance arising from noise during any phase of the Proposed Development (construction, operation and maintenance, or decommissioning). The Applicant would highlight that the offshore elements of the Proposed Development do not have the potential to cause a statutory nuisance, as outlined in Section 79(1) of the Environmental Protection Act 1990.
2.1.118	The lack of due diligence on behalf of the applicant regarding sound and its pollutive potential could yield disastrous results, such as extinction of endangered species, loss of fisheries, ecological collapse, and the loss of the coastal culture that sustains this region. The area at risk is extremely important by way of archaeological diversity, nationally significant receptors have been identified and are at risk from cabling, trenching, boulder relocation etc.	Noted, the Applicant has no further comments on this matter at this time.
2.1.119	**In respect to the Rule 6 Letter Advice by the ExA to us as Interested Parties,** - "in making a decision, the relevant Secretary of State "must decide the application in accordance with any relevant NPS" (s104(3)), subject to certain provisos. Essentially, the provisos are that the application must not breach legal or treaty obligations, and that any adverse impact of the Proposed Development would not outweigh its benefits."	The Secretary of State will determine the weight to be attributed to the Proposed Development, during the Determination period, following Examination.
2.1.120	The European Convention on Landscapes to which the UK is a signatory is important and relevant to the first point the ExA makes. The ECL emphasizes the protection, management, and planning of landscapes. It specifically recognizes the values and importance of landscapes for cultural, ecological, and recreational purposes. This ECL relates to the Examination consideration of both the offshore and onshore elements of Rampion 2. It overlaps many preliminary principal issues identified for this Examination - and is highly relevant to ecological and environment matters discussed today. We see that as important in the Rampion 2 case-specific Examination also, where relevant UK policy and law essentially reinforces and interprets the ECL , namely:- the Marine Policy Statement (2021);- The new Levelling up and Regeneration Act (2023), under the strengthened Landscape provisions for protection of national parks; Littlehampton is a deprived community, it relies on tourism for its	Noted, the Applicant has no further comments on this matter at this time.

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	businesses as a seaside resort town. This construction would likely negatively impact tourism. This projected outcome does not pass the metrics for Sustainable Development.- Of course the Offshore Energy SEA (OESEA) strategic environment advice effectively interpreting and applying the ECL, as can be seen in OESEA-4 (2022);- These of course converge on the objectives of sustainable development, where there is a presumption for sustainable development in the UK planning system (not just development) defined as achieving net positive gains across the 3 objectives: environment, social and economic The Marine Policy Statement, the Regeneration and Levelling up Fund and the OESEA-4 all reenforce and interpret the ECL	

Table 2-2: Applicant's Response to Sussex Inshore Fisheries and Conservation Authority's Written Representation [REP1-053]

Ref	Written Representation Comment	Applicant's Response
1.1	Sussex Inshore Fisheries and Conservation Authority (IFCA) welcomes the opportunity to provide further written representations on the Environmental Statement (ES). Sussex IFCA has inputted to date through participation in the Fish Ecology Expert Topic Group (ETG), as part of the Evidence Plan Process (EPP), provided comment on the Preliminary Environmental Information Report (PIER) and through initial representations on the ES. The Authority has also helped inform assessments through the provision of relevant data held	This is noted and welcomed by the Applicant.
1.2	General comments Sussex IFCA recognises that the project will contribute materially towards meeting the urgent national need for renewable energy generation. The proposed array falls outside, but closely borders the Sussex IFCA District, and the cable route passes through. Therefore, the construction and maintenance phases of the array and, and in particular the cable route will affect Sussex IFCA fishers, fisheries and habitats within the District.	This is noted by the Applicant.
1.3	Sussex IFCA has invested considerable resources fulfilling its statutory duties in managing fishing activities across the Sussex IFCA District, within MPAs and with district-wide measures such as the introduction of nearshore trawling restrictions to protect essential fish habitats, and permit schemes to ensure fishing effort is sustainable. There is a high expectation by the fishing sector and the wider community, that other public bodies and developments will take every step to ensure impacts on these areas are minimised and that a precautionary approach is taken in the absence of sufficient evidence.	This is noted by the Applicant.
1.4	There is a high level of uncertainty regarding the proposed development, due to the extended use of the Rochdale Envelope. This makes it challenging to pass meaningful comments on mitigation measures for installation techniques. Therefore, there is little certainty of the actual environmental impacts of the project and how the developer will mitigate these impacts. This is of concern to Sussex IFCA and threatens to undermine the intention to complete the project in a sustainable manner that minimises impact on stakeholders.	**Chapter 5: Approach to the EIA, Volume 2** of the Environmental Statement (ES) **[APP-046]** states that where the design is still evolving, a precautionary approach has been applied to ensure a maximum design scenario which represents the worst-case scenario for each aspect is assessed in the ES. This approach has been adopted in line with the Planning Inspectorate Advice Note Nine: Rochdale Envelope (Planning Inspectorate, 2018), and is further described in **Chapter 4: Proposed Development, Volume 2** of the ES **[APP-045]** in paragraphs 4.1.4 to 4.1.6. The use of the Rochdale Envelope approach is recognised in paragraph 4.2.8 of National Policy Statement (NPS) EN-1 (Department of Energy and Climate Change, 2011) and is also reflected in the newly designated NPS (Department of Energy Security and Net Zero 2023a; 2023b and 2023c).
1.5	Sussex IFCA is aware of the community benefit fund set up as part of the Rampion project. We strongly support the use of this fund for marine ecological surveys in and around the proposed development, for improvements of habitat and for the interpretation of local marine issues. Understanding the habitats in Sussex seas is critical in protecting their intrinsic biodiversity value and their natural capital value that support, for example, sustainable fisheries and aquaculture.	Community benefits are not a legal or Development Consent Order (DCO) requirement and are quite distinct from the consenting process, a point reiterated in the UK Government (Department for Energy Security and Net Zero) response to the consultation on Community Benefits for Electricity Transmission Network Infrastructure (December 2023), which stated: *"The proposals on community benefits for electricity transmission network infrastructure discussed within this document will remain separate to the planning process. It will not be a material consideration in planning decisions, and not secured through those decisions."* That said, Rampion 2 will be a permanent neighbour in the Sussex community and the Applicant intends to develop and implement a community benefits package of proposals. In the second half of 2024 or in early 2025, the Applicant will therefore be consulting key stakeholders and local communities on how a community benefit package could best support Sussex communities.

Ref	Written Representation Comment	Applicant's Response
		Whilst Marine Net Gain is not currently mandated in the same way as onshore (terrestrial) biodiversity net gain (BNG), in recognition of the principles set out in the National Policy Statement (NPS) EN-1 (DESNZ, 2023a) that came into force in 2024, the Applicant is currently exploring opportunities to partner with organisations who are able to deliver marine benefits in the region.
1.6	Sussex IFCA reiterate their request for a commitment to making all Rampion 1 and 2 survey data available and providing access to survey reports. Such data is vitally important in enabling wider organisations to best manage and protect our local marine environment.	The Applicant notes in response that Rampion Offshore Windfarm (Rampion 1) and the Proposed Development are two distinct projects and entities, therefore the Applicant cannot provide data on behalf of Rampion 1. However, there is ongoing dialogue between the two projects/entities and information generated by Rampion 1 has been and is still being taken into account by the Applicant, with a range of data already provided (publicly) through the application process for the Proposed Development. The Applicant is happy to discuss any specifics with the Sussex Inshore Fisheries and Conservation Authority (IFCA) to identify whether, and if so how, additional data might be made available.
1.7	**Comments on Chapter 7: Other Marine Users** 7.6.46 - Sussex IFCA would like to reference Fig. 2, Annex 1 for the scale of boat-based recreational angling across the Sussex coast in the vicinity of the proposed development.	The Applicant welcomes the provision of Sussex Inshore Fisheries and Conservation Authority (IFCA) recreational fishing effort data in the form of a chart, provided as Figure 2 of the Sussex IFCA's submission at Deadline 1. The Applicant considers its description of the popularity of the area for boat-based angling given in paragraph 7.6.46 of **Chapter 7: Other marine users, Volume 2** of the Environmental Statement (ES) **[APP-048]** appropriately reflects the data presented in the figure.
1.8	**Comments on Chapter 8: Fish and Shellfish Ecology** As previously stated (PIER Consultation response in Sept 2021 and ES Initial Representations in Nov 2023), Sussex IFCA remain concerned about the lack of up-to-date site-based survey data and the age of the baseline datasets utilised. These concerns are highlighted in 8.5.8, eg. "Many of the conclusions drawn by Coull et al. (1998), are based on historic research and may fail to account for more recent changes in fish distributions and spawning behaviour.". It is important to note that required fish surveys as part of any monitoring requirement are yet to be fully discussed and agreed. Bespoke liaison with statutory authorities and wider ETG participants is required.	The Applicant is confident that data available at the time of writing, inclusive of historic desk studies, survey data drawn from the aggregates industry surveys and site-specific geophysical survey data, have been appropriately used to describe a suitably contemporary baseline characterisation to inform the assessment undertaken in **Chapter 8: Fish and shellfish ecology, Volume 2** of the Environmental Statement (ES) **[APP-049]**. During the Benthic Ecology and Fish Ecology Expert Topic Meeting (ETG) Meeting on 24 March 2021, Sussex Inshore Fisheries and Conservation Authority (IFCA) stressed that site-specific fish and shellfish surveys were considered more appropriate than solely relying on desk-based studies to inform the baseline, but ultimately deferred to their statutory authority colleagues on this matter (Marine Management Organisation (MMO) and Centre for Environment, Fisheries and Aquaculture Science (Cefas)). Agreement of no additional fish and shellfish surveys required for the Proposed Development was confirmed with these bodies, as set out within the agreement logs of the **Evidence Plan [APP-243]**; agreement reached with MMO (30/11/20); Cefas (21/10/20); and Sussex IFCA (24/03/21). As part of the Evidence Plan Process (EPP), these agreements identified that adequate information had been provided for the baseline characterisation, and with the exception of black seabream (Natural England ETG response 27/11/20), further fish and shellfish surveys were not considered necessary for the assessment. Site specific geophysical surveys were conducted across the entire proposed DCO Order Limits in 2020, with benthic surveys including drop-down video (DDV) conducted in 2021, which allows the consideration of likely distribution of black seabream nests, and nesting habitat potential outside the Kingmere Marine Conservation Zone (MCZ)

Ref	Written Representation Comment	Applicant's Response
		based on seabed characteristics (Section 8.6, paragraph 8.6.82 to 8.6.84 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. The site-specific surveys complement long term black seabream nest distribution data collected within the export cable corridor, Kingmere Marine Conservation Zone (MCZ) and the nearfield Zone of Influence (ZOI) to inform licensing decisions for the aggregate industry, black seabream catch and release data, and regional geological data, the composite of which is described in this chapter and completes a comprehensive baseline characterisation fit for the purposes of environmental impact assessment (EIA).
1.9	Section 8.6.1 would benefit from a full summary of the sampling events and survey coverage of the Rampion 1 datasets utilised so that stakeholders can better understand how much of the ES assessment boundary area has had data collected within it to inform the fish baseline for Rampion 2. The final fish survey coverage and associated fish ecology survey reports for Rampion 1 were requested previously to enable Sussex IFCA to better understand how much of the scoping area had survey data collected within it to inform the fish baseline for Rampion 2 but were not received ahead of this consultation.	The Applicant highlights that a summary of the Rampion 1 surveys, including baseline characterisation, pre-construction and post-construction monitoring is provided in paragraphs 8.6.2 to 8.6.21 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. A list of surveys is provided within the summary of data sources used in the assessment (Table 8-10 of the chapter). In terms of the areas covered during the Rampion 1 surveys, a description of the survey areas in relation to Rampion 2 is provided in **Table 8-10** of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. In terms of the provision of survey reports and data, the Applicant refers the Sussex Inshore Fisheries and Conservation Authority to its response to point 1.6 above.
1.10	<u>Black seabream</u> Sussex IFCA have had serious concerns regarding the likelihood of significant impacts to black seabream during the construction, operation, and maintenance of Rampion 2. The proposed mitigation from sedimentation and noise generation has alleviated some of these concerns, however, pre-construction site-specific surveys are needed to inform micro-siting of all elements of construction to minimise the environmental impact. The Authority would also welcome clarity around how the Applicant will be held accountable on any commitments made at this stage in the process.	Impacts to black seabream arising from all of the noted sources (underwater noise, suspended sediment, direct disturbance, and long-term loss of habitat) are assessed in Sections 8.9, 8.10, and 8.11 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the Environmental Statement (ES**) [APP-049**]. Embedded mitigation to reduce the magnitude of impacts from underwater noise, suspended sediment, direct disturbance and habitat loss have been detailed in Table 8-13 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049].** The Applicant has committed to pre-construction surveys to inform micro-siting in the **In Principle Sensitive Features Mitigation Plan [REP1-012],** the delivery of which is secured in Condition 11(1)(k) of the draft Marine Licences (dMLs) (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**). As the pre-construction surveys and subsequent micro-siting design process, in addition to commitments made with respect to the operations and maintenance phase, are secured within the DCO, the Applicant will therefore be accountable for such through the consent.
1.11	Sussex IFCA note the recent report on Underwater Noise (Document Reference: 6.4.8.4) that provides a baseline of background noise during a successful nesting season. Sussex IFCA suggest that this baseline is used to inform a suitable target for noise abatement mitigation to achieve. We understand that Natural England have concerns about the relevance of evidence used to determine the noise threshold of 141dB SELss for behavioural disturbance, due to the application of evidence of thresholds in other species as a proxy for black seabream. Assuming interspecific consistency in behavioural responses to noise is less reliable than the assumption that the current noise levels are compatible with successful spawning populations of black seabream. Sussex IFCA support Natural England's advice to RED on this matter.	The Applicant has set out its commitments to the use of noise abatement mitigation during the black seabream spawning period, within the **In Principle Sensitive Features Mitigation Plan [REP1-012]),** which is secured via Schedule 11, Part 2 11 (k) and Schedule 12, Part 2 11 (k) of the **Draft Development Consent Order [PEPD-009]**. The noise abatement mitigation commitments are: • C-265 At least one offshore pilling noise mitigation technology will be utilised to deliver underwater noise attenuation in order to reduce predicted impacts to

Ref	Written Representation Comment	Applicant's Response
		sensitive receptors at relevant Marine Conservation Zone (MCZ) sites and reduce the risk of significant residual effects on the designated features of these sites. • C-280 Commitment that no piling will occur in the piling exclusion zones during the seabream breeding period (March-July) which will be defined by the modelling in the Final Sensitive Features Mitigation Plan. • C-281 Commitment to no piling within the western part of the Rampion 2 offshore array closest to the Kingmere MCZ during the majority of the black seabream breeding period (March-June); and sequenced piling in the western part of the Offshore Array Area during July in accordance with the zoning plan to be set out in the Final Sensitive Features Mitigation Plan, to reduce the risk of significant effects from installation works on breeding black seabream within or outside of the Kingmere MCZ. • C-282 Commitment to commence piling at locations furthest from the Kingmere MCZ during the black seabream breeding period (March-July), to reduce the risk of significant effects from installation works on breeding black seabream within or outside of the Kingmere MCZ. As noted by the Sussex IFCA in its Deadline 1 submission, the ambient noise study, **Appendix 8.4: Black Seabream Underwater Noise Technical Note and Survey Results – Revision A, Volume 4** of the Environmental Statement (ES) **[PEPD-023],** has been submitted to the Examination at the Pre-Exam Procedural Deadline A provides a baseline data set for the 2023 black seabream nesting season and the Applicant confirms that its proposed noise threshold will be informed by this site-specific ambient noise survey in order to ensure a relevant threshold for the area is established. The Applicant highlights that the proposed threshold for disturbance has been developed on the basis of existing data, the physiology of the species and the use of appropriate proxy species for which peer-reviewed data exist (where they are absent for black seabream specifically). The threshold has been set at a level the Applicant considers precautionary based on these studies and information. The Applicant's proposed approach to using the ambient soundscape at Kingmere MCZ is therefore to provide site-specific context and to inform corroboration of the proposed 141dB level in accordance with a specified exceedance above background noise level which may elicit a reaction in fish, as described in the Underwater Noise Mitigation for Sensitive Features Technical Note, submitted to the Examination within Part 9 of the **Evidence Plan [APP-251]** and based on the findings of a study by Radford *et al*., 2016).
1.12	Sussex IFCA recommend that evidence gaps around the spatial distribution of black seabream nesting habitat within proposed development boundary are addressed, with existing datasets containing large gaps between survey boxes. The geophysical data collected could be utilised to determine presence of suitable nesting habitat, or surveys using acoustic methods during the bream breeding season could be conducted. As mentioned in the ES, data from aggregates consortium monitoring show that black seabream nests are present within the cable corridor data.	The limitations of the aggregates monitoring data have been acknowledged in paragraph 8.5.12 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the Environmental Statement (ES) **[APP-049]**. The Applicant confirms that in acknowledging these limitations, an assessment has been undertaken with the assumption of the presence of black seabream within the proposed DCO Order Limits. As stated in paragraph 8.5.12 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**, post consent surveys, undertaken as part of a suite of pre-construction surveys, will allow a determination to made as to the extent of the nesting area, and specifically the key nesting areas within the DCO Order Limits as detailed within the **Offshore In Principle Monitoring Plan [APP-240]**, which is secured in Condition 11(1)(j) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**). To ensure that the conservation objectives of the Kingmere MCZ are not hindered and that

Ref	Written Representation Comment	Applicant's Response
		there are no population level effects on black seabream, the Applicant has proposed several embedded mitigation measures. These are detailed in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**, the delivery of which is secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**).
1.13	Herring The impacts from underwater noise to herring is still a serious concern to Sussex IFCA. Herring are deemed highly sensitive, due to a combination of their restricted habitat requirements (they spawn directly onto the seabed) and their sensitivity to underwater sound over large distances. Sussex IFCA recommends a seasonal piling restriction to limit disturbance to spawning populations during the spawning season (November-January) or methods such as bubble curtains	The Applicant is confident that there will be no disturbance to spawning adult herring, due to the distance of the spawning ground (as defined by Coull et al., 1998) from the array area (47 km). This assertion is based on the lack of overlap with the spawning ground of piling noise at a level that will disturb spawning adults (186 dB SEL_{cum}) at the recognised spawning ground, as presented in **Chapter 8: Fish and shellfish ecology, Volume 2** of the Environmental Statement (ES) **[APP-049]**. This is further supported by the additional noise modelling of both unmitigated and mitigated piling scenarios, using the precautionary 135 dB SEL threshold, to define the potential range of effect on spawning herring in the **Deadline 1 Submission – 8.25.1 Applicant's Post Hearing Submission – Issue Specific Hearing 1, Appendix 9 – Further Information for Action Points 38 and 39 – Underwater Noise** **[REP1-020]**, submitted at Deadline 1. Whilst the Applicant reiterates that it does not support the application of the 135 dB SEL contour to establish behavioural impact ranges for herring, as the use of this threshold for noise impact assessments is expressly advised against by the authors of the paper, the outputs of the modelling show no overlap even at this noise level with the defined spawning ground, with a substantial buffer distance shown with the lowest performing noise mitigation measure applied. The Applicant highlights that it has committed to employing at least one offshore piling noise mitigation technology to deliver underwater noise attenuation to reduce predicted impacts to all sensitive receptors, including spawning herring (commitment C-265 in the **Commitments Register** **[REP1-015]** (as secured in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]** in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**). Mitigation will therefore be applied throughout all piling activities, including the November to January period relevant for herring. Any potential effects from underwater noise on herring are therefore in relation to herring eggs and larvae, and not adult spawning herring. As larvae lack swim bladders or the connection between the swim bladder and the inner ear has not yet formed at this stage, they are considered to be less sensitive to underwater noise. The impact ranges for injurious effects of eggs and larvae are localised to the source (6.2 km for underwater noise impacts from sequential piling operations), and therefore will have no interaction with areas of high larval densities. The Applicant has assessed the potential for impacts on eggs and larvae in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. Given the stationary nature of eggs and larvae the potential for behavioural impacts is considered limited, therefore the worst-case impact ranges for effects on larvae is considered to relate to the potential for TTS. As detailed in paragraph 8.9.238 *et seq*. of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. given the low degree of disturbance at intermediate (100s of metres) and far (1,000s of metres) of larvae (in accordance with the Popper et al., (2014) criteria) and the distance of areas of high-density herring larvae from the Proposed Development Offshore Array Area (30 km), the risk of disturbance to herring larvae is considered to be low, and therefore not significant.

Ref	Written Representation Comment	Applicant's Response
		As noted above, and as detailed in the **In Principle Sensitive Features Mitigation Plan** [**REP1-012**], the Applicant has committed to the implementation of at least one offshore piling noise mitigation technology, therefore mitigating against potential impacts from underwater noise to herring eggs and larvae. The Applicant has presented the mitigated mortality and potential mortal injury impact ranges (210 dB SELcum) relative to areas of high densities of herring larvae in **Deadline 1 Submission – 8.25.1 Applicant's Post Hearing Submission – Issue Specific Hearing 1, Appendix 9 – Further Information for Action Points 38 and 39 – Underwater Noise** **[REP1-020]**. As evident, with the implementation of at least one noise abatement measure, there is no interaction of the recoverable injury impact contours with areas of high-density herring larvae. On this basis, for both adult spawning and in relation to potential effects on eggs and larvae, the Applicant considers there to be no requirement for a seasonal restriction on piling at the Proposed Development site for the protection of herring.
1.14	Seahorses Seahorses are protected under the Wildlife and Countryside Act 1981 and it is an offence to intentionally or recklessly harm or disturb them or damage their habitat. They are also a Biodiversity Action Plan (BAP) species. With regards to the impact of underwater noise on seahorses, Sussex IFCA have concerns with the current conclusions of the ES. Sussex IFCA suggest that a more cautious approach should be adopted to control the risk and uncertainty associated with this potential impact given the high sensitivity of the receptor.	The Applicant is confident that a suitably precautionary assessment has been undertaken to establish the potential impacts from underwater noise on seahorse. As detailed in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**, as a further precaution, the Applicant has committed to the use of at least one offshore piling noise mitigation technology for the duration of the construction phase (with the inclusion of additional mitigation measures from March-July), this will ensure any potential for impact on seahorse is minimised.
1.15	**Comments on Chapter 9: Benthic subtidal and intertidal ecology** Sussex IFCA agree with the updated assessment in section 9.9 that there will be a permanent loss to chalk habitat during the construction phase of the development.	This is noted by the Applicant.
1.16	Avoidance of sensitive features (black seabream nests and chalk reef habitat) is key in any consideration of the routing of the offshore cable and landfall site. Micrositing of the cable route will be essential to avoid impact to these features and Sussex IFCA recommend that RED make a commitment to this.	The Applicant can confirm it has committed to pre-construction surveys to inform micro-siting for sensitive habitats and features. As detailed in the **In Principle Sensitive Features Mitigation Plan** **[APP-239]**, the final mitigation plan, which will be developed post consent based on the final design parameters (secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**), will map out sensitive features, including principal densities and aggregations of nesting sites. Data on the locations of such features, including historic desk studies, survey data drawn from the aggregates industry surveys, geophysical survey data for the export cable corridor carried out in 2020 and the pre-construction survey data will be used to inform the subsequent micrositing around sensitive features within the export cable corridor. The Applicant would also draw Sussex Inshore Fisheries and Conservation Authority's attention to the design plan requirements secured in Condition 11(1)(a) of the dMLS (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**), which requires the Applicant to provide a plan (at a scale between 1:25,000 and 1:50,000 including detailed representation on the most suitable scaled admiralty chart, to show any environmental micrositing requirements.
1.17	Sussex IFCA welcome the inclusion of our mapping data in the ES, including SCHIP1 and SCHIP2 outputs.	This is noted by the Applicant.

Ref	Written Representation Comment	Applicant's Response
1.18	**Comments on Chapter 10: Commercial fisheries** Sussex IFCA welcomes a Statement of Common Ground being developed with the fisheries working groups (10.3.33). Although we note and support the proposed development functioning as a multi-use site for fishers wishing to fish within the windfarm, post construction, it will have a significant impact on the local fleet during the construction phase. If needed, Sussex IFCA can liaise with the local fleet with respect to any cooperation agreements and associated payment applications, for example by providing evidence of fishing activity through our shellfish permit scheme.	The Applicant notes that no Statement of Common Ground is being pursued with the fisheries working group, however liaison with fishing groups is set out within the **Outline Fisheries Liaison and Co-existence Plan [APP-241]**, secured through condition 11 (g) Schedule 11 and 12 of the **Draft Development Consent Order [PEPD-009]**, and which mirrors the formatting and level of detail of the Rampion 1 fisheries liaison and co-existence plan, for which fishers were heavily involved in the drafting. The Applicant welcomes Sussex Inshore Fisheries and Conservation Authority's support in local fleet liaison, and notes that it will engage with fisheries stakeholders including the Fishing Working Groups, to finalise this document, post consent.
1.19	10.3.33 – Is a SoCG being produced with the fisheries working groups? Are there further working groups being scheduled as part of the DCO application?	The Applicant refers the Sussex Inshore Fisheries and Conservation Authority to its response in **reference 1.18** above.
1.20	10.9.7 IFCA patrol sightings only cover inshore grounds (inside 6 nautical miles). The array area is outside of the IFCA District. Therefore, IFCA sightings data cannot be used to indicate that netting does not take place within the array area. However, the impacts of installation will be relevant to inshore fleet and evidence of netting that occurs with 6nm, and adjacent to the proposed array area, is provided in Annex 1.	This is noted by the Applicant and the additional explanation of the patrol sightings data is welcomed. It is understood that Inshore Fisheries and Conservation Authority (IFCA) patrol sightings data covers the IFCA jurisdiction inside of the 6 nautical mile limit and therefore should not be used to infer that netting does not take place within the array area, which is not the assumption made in either **Appendix 10.1: Commercial fisheries technical baseline report, Volume 4** of the Environmental Statement (ES) **[APP-146]** or **Chapter 10: Commercial fisheries, Volume 2** of the ES **[APP-051]**. Fisheries landings data sourced from the Marine Management Organisation (MMO) indicates that registered fishing vessels using nets to fish within the Rampion 2 commercial fisheries study area of ICES rectangle 30E9 are all under 12 metres length, with 98% of vessels being under 10 m length (based on 2018 to 2022 landings statistics published by the MMO in 2023). Noting typical vessel size and the expected operational range of these vessels and taking account of IFCA patrol data that indicates relatively higher levels of netting effort towards Brighton and Shoreham rather than off Littlehampton, is it assumed that levels of netting activity are greater in waters inshore of the Rampion 2 array area than in the array area.
1.21	Fishing Effort Analysis Sussex IFCA produce fishing effort grids (See Annex 1 for methodology and most recent available results). Updated grids will be available soon (2019-2023). Data can be made available on request. This data can be used to investigate the impacts of Rampion 2 in relation to fishers within the Sussex IFCA District.	The Applicant would welcome receipt of the data and will make a data request to Sussex Inshore Fisheries and Conservation Authority. The Applicant notes that it is a key source of commercial fisheries data, which can be used to explore changes in fishing effort spatially and temporally.
1.22	Shellfish Permit Database Sussex IFCA collect data on shellfish catch returns through the Shellfish Permit Byelaw. This data could be used to help understand the changes in catches during the construction and operational phases of Rampion 2. Please see the most recent available report (https://secure.toolkitfiles.co.uk/clients/34087/sitedata/files/ConservationResearch/2022-Shellfish-Catch-Return-Report.pdf). Data can be made available on r	The Applicant would welcome receipt of the data and will make a data request to Sussex Inshore Fisheries and Conservation Authority (noting that the link provided does not appear to be functioning at present). The Applicant notes that it is a useful source of commercial fisheries data, which can be used to explore changes in fishing effort spatially and temporally.
1.23	**Comments on Volume 4, Appendix 10.1: Commercial fisheries baseline technical report**	The Applicant notes the method that has been applied in data analysis to address patrol effort bias and welcomes the explanation of the method presented in Annex 1.

Ref	Written Representation Comment	Applicant's Response
	2.2.8: Report suggests fishing effort data has low confidence due to patrol effort bias. The methodology takes this bias into account, adjusts for this bias and reports effort data using a 5-year average (see Annex 1). To suggest that there is a patrol bias misrepresents the data, and risks it not being suitably incorporated into the consultation process.	The Applicant would highlight that Paragraph 2.2.8 in **Appendix 10.1: Commercial fisheries technical baseline report, Volume 4** of the Environmental Statement (ES) **[APP-146]** is not intended to suggest that the Inshore Fisheries and Conservation Authority (IFCA) patrol sightings data should not be considered and incorporated into the EIA, and indeed the Applicant confirms that the data is presented and utilised **Appendix 10.1: Commercial fisheries technical baseline report, Volume 4** of the ES **[APP-146]** and **Chapter 10: Commercial fisheries, Volume 2** of the ES **[APP-051]** to inform the commercial fisheries baseline. Paragraph 2.2.8 is rather intended to reflect that the data is primarily gathered as part of delivery of the IFCAs enforcement role and may not provide a complete picture of fishing activity in the Rampion 2 commercial fisheries study area (noting that the limitations of other commercial fisheries baseline datasets are also described).
1.24	Table 2-2: Patrol "Data is assessed with: high uncertainty and low confidence". See comments above regarding fishing effort analysis.	The Applicant directs the reader to the response to **reference 1.23**.
1.25	**Conclusion** The Authority welcomes the opportunity to submit further comments during the examination of the application and wishes to support RWE in determining the scope of the conditional mitigation, the temporal and spatial restrictions together with monitoring requirements of the marine licence. It is important that developments like Rampion 2 should not compromise the Sussex IFCA's ability to maintain and promote sustainable fisheries and protection of the marine environment within the region.	This is noted by the Applicant. The Applicant intends to continue discussions with the Sussex Inshore Fisheries and Conservation Authority (IFCA) on these matters whilst also referring the Sussex IFCA to its responses to specific points in the sections above as well as its responses to Relevant Representations, submitted at Deadline 1 **[REP1-017]**.
Annex 1: Sussex IFCA Fishing Effort 2018-2022		
1.26	**Methodology** When the Fisheries Patrol Vessel (FPV) Watchful is at sea on routine patrols, the fisheries officers record fishing activity, including date, time, vessel name and PLN (port letters and numbers), latitude and longitude location of the fishing vessel, and fishing method (gear type). As the FPV is based in Shoreham, the area around the port is more frequently patrolled, therefore there are likely to be more observations in this area. To remove this bias, fishing effort is calculated by dividing the number of sightings by patrol effort. Patrol effort is calculated by applying a 2km buffer to the FPV track. This is considered the maximum distance at which a fishing vessel and it's activity could be identified, under average conditions. The annual average area of sea patrolled per 1km² grid cell is calculated. The number of fishing vessel sightings per 1km² grid cell is the divided by the area of sea patrolled, to equal the number of fishing vessels per km².	Noted by the Applicant; the detailed methodology description is welcomed, as are insights into the 2018 to 2022 patrol data.

Table 2-3: Applicant's Response to Sussex Wildlife Trust's Written Representation [REP1-164]

Ref	Section	Subject	Written Representation Comment	Applicant's Response
1.1	General	Overarching concerns	Landfall at Climping Beach SSSI We remain concerned at the choice of landfall location and query whether a more suitable alternative exists. We understand that Natural England has proposed a further commitment (C-217) to avoid drilling under the SSSI during the winter period (Oct to Feb) to avoid disturbing wintering birds (a notified feature of the SSSI), and we would strongly support this. We note that during Issue Specific Hearing 1 (Session 4), the applicant suggested that because the HDD will pass underneath the ground there will be no interaction with SSSI features. However, in our view the potential for disturbance to roosting and feeding birds is high, ranging from the simple presence of staff and machinery on site to noise, vibration and artificial lighting during operation, potentially over prolonged periods. We also highlight that Natural England's submission (RR-265) states that cable installation is an operation likely to damage the notified features of the SSSI (Appendix D Coastal Processes Page 9, Point 16).	The approach to site selection and the consideration of alternatives for Rampion 2 accords with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and the requirements of the National Policy Statement EN-1 and National Policy Statement EN-3 both in terms of the 2011 versions extant at the time the application was made, and the newly designated 2023 versions, which requires the Applicant to set out those alternatives that were considered and explain the choices that were made. The results of this assessment are presented in **Chapter 3: Alternatives, Volume 2** of the Environmental Statement **[APP-044]**. The Applicant considers the site selection and consideration of alternatives undertaken to be sufficient and appropriate and support the selection of the landfall at Climping. Commitment C-217 (**Commitments Register [REP1-015]**) states *'The HDD works at the landfall location will be programmed to avoid the winter period between October and February inclusive, to avoid disturbance to wintering waterbirds during the coldest period.'* secured via Requirement 22 of the **Draft Development Consent Order [PEPD-009]**. The closest proposed works where construction activity is to take place (Works No. 8 within the **Onshore Works Plans [PEPD-005]**) is in excess of 175 m from the boundary of the Climping Site of Special Scientific interest (SSSI). All closer works (including beneath the Climping SSSI) are proposed to be either underground (i.e. the Horizontal Directional Drill (HDD)) secured through Works Nos. 6 and 7 of the **Draft Development Consent Order [PEPD-009]** or pedestrian traffic only (e.g. monitoring of the drill head path) restricted by the **Outline Construction Method Statement [APP-255]**, secured through Requirement 23 of the **Draft Development Consent Order [PEPD-009]**. The Applicant also refers the Sussex Wildlife Trust to its response to the issue raised by Natural England in its Relevant Representation **[RR-265]** relating to cable installation works and the risk of impact to the Climping Beach SSSI (see **Applicant's Response to Relevant Representations [REP1-017]** submitted at Deadline 1), where issues related to effects on coastal morphology at the landfall are addressed.

Ref	Section	Subject	Written Representation Comment	Applicant's Response
Environmental Statement Chapter 6 – Coastal Processes				
1.2	Table 6-11	Dredge spoil disposal: Disposal location: 'close' to the installation works.	We seek clarity on the wording here and query whether this is sufficient at this stage. We suggest a disposal location should be specified and any impacts on the specific environment be duly considered; this would be considered standard as part of an application to dispose at sea for any other marine license.	The Applicant confirms that the assessment of the Proposed Development has assumed disposal of material in-situ (i.e. 'close' to the construction works), which will comprise inert material of natural origin within the Order limits produced during construction drilling, seabed preparation for foundation works, cable installation preparation such as sandwave clearance, boulder clearance, pre-trenching, horizontal directional drill (HDD) arisings and excavation of HDD exit pits. Returning spoil to the seabed 'close' to the activity is considered to be beneficial

Ref	Section	Subject	Written Representation Comment	Applicant's Response
				or preferred for such material, for example sediment from sandwave clearance, as this maintains sediment volume in the local system and is more likely to support recovery of the natural seabed in a shorter timeframe. Therefore, as part of the DCO Application, and as is standard practice for offshore wind farm developments, the Applicant is seeking to licence the Order Limits area as a disposal ground to receive these materials, as set out within Part 1 (Licensed Marine Activities) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**). All relevant potential impacts arising from the deposition of spoil material arising from the Proposed Development have been assessed in relevant Chapters within **Volume 2** of the ES **[APP-47 to APP-70]**, recognising the occurrence of sensitive receptors in the area, however the Applicant also refers the Sussex Wildlife Trust to the **Site characterisation report** **[APP-031].** This document provides a stand-alone characterisation of the Order limits area within which material arising from the Proposed Development will be disposed of (produced during for example construction drilling, seabed preparation work, sandwave clearance, trenching etc.), consideration of alternative options for disposal, and references to where more detailed information is presented within the ES.
1.3	Outline Scour Protection and Cable Protection Plan (7.12)		We note that a number of options are being considered; comment cannot be passed on potential environmental impacts where this remains unknown. We suggest that artificial materials (polyethylene half shells or sheathes have been listed as an option) should be avoided due to their potential to be harmful if they degrade or break down; careful consideration should be given to scour protection type in order to minimise any environmental impact. Lessons should also be drawn from Rampion 1.	It is normal that a range of options for scour protection and cable protection are considered in the maximum design scenario. Final engineering design of the specific protection materials, dimensions and locations will be undertaken post-consent, informed by additional geotechnical surveys and potentially also with input from, and subject to the offer and proposals of, the selected cable installation sub-contractor. The available options and final choice of scour protection materials will be determined on a technical and commercial basis, also following current industry best-practice and legislation, and informed by the experience of the Applicant's engineers from designing, installing and maintaining other offshore wind farms, however the Applicant would highlight that it is committed to minimising the release of plastics into the marine environment, and commits to using suitable alternatives, where this is practicable. Commitments C-288 and C-289 have been added to the **Commitments Register** **[REP1-015]** and will be secured through the next iteration of the **Outline Scour Protection and Cable Protection Plan** **[APP-234],** secured in Condition 11(1)(i) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** **[PEPD-009]**) at Deadline 3. The Applicant also notes that good technical design and performance of any scour and cable protection applied will mitigate against the need for remedial works or protection being required at a later date.
1.4	6.9.50	Trenching through chalk	We note that it is suggested that the excavated material will be used to back fill the trench on completion of cable installation works – we query what the developer intends to do with the inevitable surplus material (as there will be	**Chapter 6: Coastal processes**, **Volume 2** of the ES **[APP-047]**) provides consideration and assessment of the side-casting of material during the excavation of trenches, and the potential for dispersal of this material in the maximum design scenario case (i.e. if stored nearby in relatively shallow water

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			more material excavated than can be back filled). Additionally, we are concerned that this material seems to be expected to remain in situ during up to 4 months before back-filling, and indeed once the material is backfilled into the trench. We should like to see consideration given to the potential for this material to move and the impacts this may have.	near to the landfall). The Applicant also highlights that trench cutting on the seafloor using a mechanical cutter would be able to deposit the majority of the cuttings back into the trench, however this process will obviously be influenced by the characteristics of the chalk rock itself. For material deposited arising from the excavation of the HDD pits, as set out in the description of the Proposed Development (**Chapter 4: The Proposed Development**, **Volume 2** of the ES **[APP-045]**), the excavated material may be temporarily stored within the array area or export cable corridor, before being dredged again and used as backfill when the pits are closed. Therefore, the assessed maximum design scenario has the greatest potential for dispersal of the sidecast material (shallow nearshore). It is noted that the underlying chalk is exposed extensively along this coastline. Chalk might be put into suspension as anything from a fluid mud/fine suspension to big chunks, and/or anything in-between (depending on the geotechnical properties of the chalk locally, and the method and tool used to disturb it). The density of chalk is not dissimilar to other sediments in this context and so the behaviour of a plume would be broadly similar. The outputs presented within the ES (SSC and thickness of deposition) therefore equally apply to all grainsizes of chalk. Furthermore, loose chalk boulders (and likely smaller pieces) are commonly observed on the beach and seabed. The introduction of an additional relatively small volume of chalk clasts (especially following a reasonably short period of reworking, e.g. one large storm) would not noticeably change the seabed in this area..
1.5	6.9.73 6.9.74 6.9.75	Sensitivity of Climping Beach SSSI is considered 'medium' Significance of residual effect is 'Minor adverse (not significant)' Effects will be indirect and temporary and Not Significant in EIA terms	We are concerned that the sensitivity of Climping Beach SSSI has been downplayed and should be categorised more highly sensitive. Vegetated shingle is nationally uncommon and highly sensitive, and sand dunes also highly sensitive. Additionally, the sea defences here have been significantly damaged by recent storm events and this has caused further coastal erosion and flooding. It is important that the construction methodologies take this into account to avoid unnecessary future maintenance and further disturbance at the site. As the installation location is currently unknown (so cable protection requirements are unknown), sensitivity should be greater.	Key direct and indirect impacts to Climping Beach (including but not limited to the SSSI) are assessed in Paragraph 6.9.46 onwards (construction phase), and Paragraph 6.10.11 onwards (operational phase) in the Environmental Statement (ES) (**Chapter 6: Coastal processes, Volume 2** of the ES **[APP-047]**). The sensitivity of Climping Beach SSSI is considered 'Medium', defined in the Chapter as: *Moderate to low capacity to accommodate the proposed form of change; and/or receptor designated and/ or of regional level importance. Likely to be relatively rare. May also be of moderate socioeconomic importance*. The Applicant considers this sensitivity level to be appropriate, given that whilst the site is designated, it has a relatively high tolerance to the nature of the potential impacts arising (see below). This assumption is consistent with the findings of a recent Environment Agency expert panel convened in 2020 to consider the future evolution of the Climping Beach coastline – the panel found that the beach (including the SSSI) is likely to gradually roll back in response to expected natural coastal erosion and that the designated features of the SSSI are likely to be naturally maintained during this process. Any short term or localised effect of the wind farm will be very small (assessed to be Not Significant in EIA terms) in comparison to naturally occurring coastal erosion at the regional scale. In the assessments, the Applicant has taken account of the Climping Beach SSSI designated status and physical features, and also the nature of the baseline

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				environmental setting, including the presently poor state and uncertain future of the sea defences present. The maximum design scenario for the cable landfall (both onshore and offshore parts) takes account of these factors and already limits the potential for impacts through the design. A Horizontal Directional Drill (HDD) will be used to transition the cable from the shallow subtidal area, underneath the coastline, to an inland location where the cable will be jointed to the rest of the onshore export cable. As a result, no direct disturbance of the beach is required, and the cable will remain buried throughout the lifetime of the project (so will not have any direct or indirect effect at all on the coastline). Natural coastal process and coastline evolution are expected to continue, including coastal erosion. The rate and pattern of change will depend mainly on the future patterns and variability of coastal processes (which will not be measurably affected directly or indirectly at the landfall by any part of the wind farm). Future coastal defence strategy decisions by the Environment Agency may also affect local and regional coastline evolution but are only realistically likely to slow down the general rate of coastal erosion to some extent.
1.6	C-283	Gravel bags laid on the seabed to protect the cable barge during construction of Rampion 2, will be removed prior to the completion of construction, where practicable.	We query whether the locations of these gravel bags are currently known – this information is vital to understand the possible impacts of their use.	The design of the export cable (including the specific cable route, route of the horizontal directional drilling (HDD), locations of HDD exit pits and bed preparation or gravel bags in those areas) will only be finalised post-consent and in conjunction with additional ground investigation works. The Applicant also refers the Sussex Wildlife Trust to **Deadline 1 Submission – 8.25.13 - Applicant's Post Hearing Submission** - **Appendix 13 - Further Information for Action Points 45 and 46 – Physical Processes and Benthic** **[REP1-030]**, at Deadline 1. The impact assessments undertaken consider a maximum design scenario that does not limit the location of these design features. The location presenting the greatest potential for impact is considered in all cases.
	Environmental Statement Chapter 8 - Fish & Shellfish Ecology			
1.7	C-265	At least one offshore pilling noise mitigation technology will be utilised to deliver underwater noise attenuation in order to reduce predicted impacts to sensitive receptors at relevant Marine Conservation Zone (MCZ) sites and reduce the risk of significant	We would like to see noise mitigation technologies being used as standard and this should be committed to within the ES. Further to this, we seek clarification on the type of technology to be used and the rationale for using it. We would prefer to see a range of mitigation technologies being considered with rationale and merit for different types and how they may work in combination. We seek clarity on the wording of this commitment, as it seems to have been kept intentionally vague, both with regards to the type of technology involved and the temporal scale of its use. We would like to see a commitment to it being used continuously.	The Applicant highlights it has committed to and secured a number of noise mitigation measures within the application. This includes the **Draft Piling Marine Mammal Mitigation Protocol** **[APP-236]** secured via Schedule 11, Part 2 11 (l) and Schedule 12, Part 2 11 (l) of the **Draft Development Consent Order** **[PEPD-009]** included in Table 8-13 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]** which is an embedded environmental measure related to the use of soft start procedures for piling to deter mobile marine life, therefore reducing the noise exposure to fish and shellfish receptors when assessed as mobile receptors. With regards to mitigating against the potential for impacts to sensitive stationary receptors such as black seabream and seahorse, further mitigation measures have been proposed. These are detailed in the **In Principle Sensitive Features Mitigation Plan** **[APP-239]** and include the implementation of at least one noise mitigation technology year-round. These

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		residual effects on the designated features of these sites.		measures are secured via Schedule 11, Part 2 11 (k) and Schedule 12, Part 2 11 (k) of the **Draft Development Consent Order** **[PEPD-009]**. The Applicant has investigated the use of various underwater noise mitigation technologies and provided underwater modelling outputs for the implementation of noise abatement measures, used both singly and in-combination, to ensure the Conservation Objectives of the Kingmere MCZ will not be hindered in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]**. This document sets out details of the equipment and techniques currently available to provide certainty that reductions in noise emissions, and importantly immissions at receptor sites, can be delivered. However, it is important that developments in the field of noise abatement are not excluded from use at the Proposed Development. It is on this basis that the Applicant considers the wording of Commitment C-265 (see **Commitments Register** **[REP1-015]**) to be appropriate, both reflecting the secured commitment that noise mitigation will be used as standard for all piling activities undertaken during the construction of the Proposed Development; and providing for the benefits of future development and improvement of noise mitigation/abatement measures to be realised for Rampion 2. Detailing specific equipment in the Commitment at this stage would limit the Applicant in its ability to adopt the most appropriate measures for the final design parameters, which will be developed post-consent, and notably in several years' time. This later point is important as noise mitigation and abatement technologies are rapidly developing and improving, and the Applicant considers it important to have the flexibility to select the most appropriate measures available at the time of construction.
1.8	C-274 C-280 C-281	Piling	We have concerns that worst case scenario data may still have behavioural impacts on Black Sea Bream within Kingmere MCZ and almost certainly to any not within Kingmere MCZ (many nesting sites outside of the site (on cable route) as evidenced by data set from aggregates industry). We recommend that a full seasonal restriction on piling work should be implemented; geographical zones of mitigation are not sufficient. We note that the Commitments Register contradicts itself with regards to the dates of the Black Sea Bream breeding period, stating both March-June and March-July. This should be consistent throughout the documentation and should include the month of July which is still an important month for Black Sea Bream nesting. We query whether it is appropriate for the Final Sensitive Features Mitigation Plan to be published post-consent?	The Applicant confirms that as detailed in the **In Principle Sensitive Features Mitigation Plan** **[REP1-012]** the following piling restriction commitments have been made, and secured via Schedule 11, Part 2 11 (k) and Schedule 12, Part 2 11 (k) of the **Draft Development Consent Order** **[PEPD-009]:** • C-280 – Commitment that no piling will occur in the piling exclusion zones during the seabream breeding period (March-July) which will be defined by the modelling in the Final Sensitive Features Mitigation Plan; and • C-281 – Commitment to no piling within the western part of the Rampion 2 offshore array closest to the Kingmere Marine Conservation Zone (MCZ) during the majority of the black seabream breeding period (March-June); and sequenced piling in the western part of the Offshore Array Area during July in accordance with the zoning plan to be set out in the Final Sensitive Features Mitigation Plan, to reduce the risk of significant effects from installation works on breeding black seabream within or outside of the Kingmere MCZ. Following a detailed assessment undertaken on a precautionary basis, as detailed in **Chapter 8: Fish and shellfish ecology, Volume 2** **[APP-049]**, the Applicant is confident that a full piling restriction from 1 March to 31 July is not appropriate or required to avoid significant population level effects on nesting black bream.

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				Whilst, in 2021, the black seabream spawning/nesting period was extended to include the month of July, spawning/nesting activity during this month is considerably reduced and therefore much less potential for impact on the population breeding success is anticipated than in the preceding months, as set out in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049],** with 5% of nests attended by males by 10 July and 0% by 30 July in a 2020 survey. This compared with 89.4% nests attended by males in June of the same year. Noting that some nesting is still potentially occurring in July, the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, the provision of which is secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order** [**PEPD-009]**) sets out multiple mitigation measures during the month of July; these include (in the event that piling is undertaken in July in the western part of the array) the combination of a low noise hammer technology and bubble curtains, and a sequencing approach to piling starting in locations furthest from the MCZ. Through the application of a variety of mitigation measures in July, the Applicant is confident that piling operations will not hinder the Kingmere MCZ conservation objectives. The Applicant confirms that a Final Sensitive Features Mitigation Plan can only be provided post-consent, once project parameters are finalised (as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**).
1.9	8.9.261	European Bass as a proxy for Black Sea Bream behaviour	We have concerns over the citation of Radford et al. (2016) and Kastelein et al. (2017) as derivatives for behavioural thresholds for Black Sea Bream as these studies are focussed on European Bass. The results of these studies cannot be reasonably used as a proxy for Black Sea Bream behaviour in the wild; the rationale being that the species are in the same order. It is important to note that the two species may be physically closely related with regards to hearing, the reproductive behaviours of Black Sea Bream are very different and are what is in question in this instance. We also highlight that using European Bass as a proxy for Black Sea Bream behaviour has been advised against by members of the Expert Topic Group for Fish & Shellfish Ecology throughout the process.	The Applicant's position on the behavioural threshold for black seabream has been reliant upon existing literature and best available knowledge and understanding, as detailed in paragraph 8.9.247 et seq. of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**. Throughout the consultation period, the Applicant has proposed a number of compromises, particularly through discussions with the Expert Technical Group (ETG) as part of the Evidence Plan process, which included the Sussex Wildlife Trust alongside, *inter alia*, the MMO and Natural England in order to reach agreement on key issues relating to, *inter alia*, establishing a disturbance threshold relevant to black seabream, upon which to inform the impact assessment and appropriate mitigation. These include, but are not limited to, the modelling of more precautionary disturbance thresholds, and the commissioning of dedicated surveys of ambient noise levels in 2022 and 2023 to provide contemporary site-specific data, and the proposal of a variety of mitigation measures over the consultation period. As detailed in the **In Principle Sensitive Features Mitigation Plan [REP1-012]** and paragraph 8.9.296 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]** the Applicant considers the disturbance threshold of 141 dB SELss (based on a startle response observed in seabass) as an appropriate threshold for adult black seabream, as European seabass are of the same order as black seabream, perciform, and are therefore a suitable proxy for black seabream anatomically, physiologically and geographically. Furthermore, as detailed in paragraphs 8.9.262 and 8.9.280 of **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]** a SELss of 141 dB re 1 mPa2 s is

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				considered a conservative threshold for larger fish such as black seabream, as it is based on a short-lived startle response observed in seabass. (sudden short-lived changes in swimming speed). Specifically, as reported by Kastelein et al. (2017), there was no evidence of any consistent sustained response to sound exposure by the study animals (changes in school cohesion, swimming depth, and speed) at levels up to 166dB SELss. As informed by Popper et al., (2014), behavioural disturbances are considered to be long term changes in behaviour and distribution, and should not include effects on single animals, or small changes in behaviour such as startle responses or minor movements. The use of the disturbance threshold of 141 dB SELss is therefore considered to be suitably precautionary, as if black seabream are exposed to underwater noise from pile driving, there are unlikely to be any adverse effects on their ecology, because the initial responses of European seabass after the onset of the piling sound observed were short-lived. Further to this, the approach used by the Applicant to define a suitable threshold for disturbance from underwater noise aligns with that used in other OWF applications and assessments, and therefore complies with current practice when approaching issues such as scientific data gaps and uncertainties, in order for planning decisions to be made.
Environmental Statement Chapter 9 - Benthic, Subtidal and Intertidal Ecology				
1.10	9.6.28	Worthing Lumps Local Wildlife Site	We highlight that the documentation reads that Worthing Lumps LWS contains intertidal ecology features. Worthing Lumps is offshore, located within the Kingmere MCZ, and as such does not contain intertidal features.	The Applicant can confirm that this site should not have been tied into a description of the intertidal. However, the Applicant can confirm that there will be no direct impacts to the Worthing Lumps LWS as detailed within Section 9.9 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050].** Furthermore, detailed assessment of potential indirect effects to features have been assessed. As set out within the chapter, no significant adverse effects were identified.
1.11	Table 9-14 & 9.6.22	Sabellaria spinulosa not found in reef form / low 'reefiness'	Sabellaria spinulosa of all quality is protected under Section 40 and 41 of the Natural Environmental and Rural Communities (NERC) Act, 2006. Further, the presence of individuals suggest the habitat is suitable for reef so should be treated as such. The survey data for S. spinulosa is considered outdated – Natural England suggest data should be no more than two years old to confirm presence or absence of this species.	*Sabellaria spinulosa* in its solitary form is not afforded protection, it is when the species form aggregations and tube reef structures that it is important from a conservation perspective and thus afforded protection. The presence of *S. spinulosa* individuals does not directly correlate with the presence of reef and in most parts of its geographic range it does not form reefs but is solitary or found in small groups (OSPAR, 2013). Full details of the data underpinning the baseline characterisation for benthic ecology receptors are set out within **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**, which includes specific reference to the date of the site-specific surveys, along with the wide range of other datasets drawn upon to set out a robust characterisation of the receiving environment, appropriate for the purposes of EIA. Whilst the Applicant notes the comments on the age of the site-specific data, this is only relevant for certain ephemeral features, such as certain forms of *Sabellaria* habitat, for which detailed pre-construction surveys will be conducted, as set out in the **Offshore In Principle**

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				Monitoring Plan [APP-240], the delivery of which is secured in Condition 11(1)(j) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**). This will ensure provision of an appropriately contemporary dataset (i.e. less than 2 years old) with which to finalise any required micrositing to avoid such features, should these be found to comprise 'reef' rather than ephemeral crust habitats.
1.12	Table 9-20	MarESA assessment for benthic subtidal habitats for abrasion/disturbance	We suggest a more precautionary approach should be adopted here. Where confidence is low the sensitivity should be assessed higher.	The Applicant has provided additional justification within the assessment to detail why the sensitivity assessment is robust. Additionally, where there are sensitive features, the Applicant has provided its approach to minimising impacts to sensitive habitats within the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, which includes the use of specialist equipment to minimise impact footprints in such areas where full avoidance is not possible. The final Plan will be submitted to and approved in writing by the MMO, as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**. Alongside the Cable Specification and Installation Plan, Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **draft Development Consent Order [PEPD-009]**), both of which will draw upon the cable burial risk assessment (secured in Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**.
1.13	Table 9-24	Marine Invasive and Non-Native Species	It is unclear as to why some biotopes have been assessed through lack of historical evidence of Marine INNS – this suggests that this is only assessing Marine INNS which have already been introduced. Whilst we appreciate it is not possible to account for all Marine INNS that could potentially be introduced, we suggest that monitoring should be in place.	The Applicant has presented information from the MarESA assessment for the benthic subtidal habitats for introduction or spread of Marine INNS within Table 9-24 of Section 9.9 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050].** Whilst this information is lacking some detail due to the lack of evidence that is available for the majority of biotopes, it is the final conclusion for the sensitivity assessment that is important "*Therefore, the sensitivity is considered to be **high**, reflecting that at worst-case benthic receptors have 'none' or 'low' resistance (tolerance) to an impact of this nature".* This is the highest value for sensitivity which is conservative and therefore takes into account the lack of evidence.
1.14	Appendix 9.1	Rampion 2 predictive seabed mapping methods report, Volume 4 of the ES (Document Reference: 6.4.9.1)	The 'Ground Truth' data fed into modelling relies heavily on data from external sources, some of which are quite dated. We question the level of confidence that can be put on the output of this type of modelling. We would like to see further ground truthing undertaken specifically to feed into this - this would allow for much more informed micro-siting.	The Applicant reiterates that the initial purpose of creating the predictive habitat model was to address data gaps identified at PEIR, due to planned survey work being delayed and site-specific data therefore being unavailable at that time. The baseline characterisation, including the benthic habitat map presented within the ES documents, has been developed drawing upon a range of datasets including site-specific benthic survey, historic data and site-specific geophysical surveys. The assessment does not rely upon a habitat model based solely on historic data; the site-specific survey information including that acquired after PEIR has been used to augment the habitat model to provide a robust baseline appropriate for the purposes of EIA rather than substituting for a lack of site-specific data and the resulting combined dataset is considered by the Applicant to be robust.
1.15	Table 9-6 C-41	Statutory consultation feedback In	The target depth of 1m for inter-array cables is stated within the Commitments Register yet no such commitment has been included for the offshore export cable corridor.	The cable burial depths will be determined as set out in paragraph 4.3.54 within **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**, which is reflected in commitment C-41 of the **Commitments Register [REP1-015]** for

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		response to Natural England's concern re electromagnetic fields, the ES states, A 1m target depth is considered appropriate for interconnector and array cables and up to 1.5m is considered for the offshore export cable corridor	There also seems to be no reference as to rationale for the burial depths specified. We query both the above.	the array cables (as secured by Draft Development Consent Order, Schedule 11, Part 2, Condition 2 (7)). In its response to Natural England's Relevant Representation (see **Applicant's Response to Relevant Representations [REP1-017]** submitted at Deadline 1), specifically the response to point F11), the Applicant as set out the process for selecting the cable installation contractors in order to meet the required burial depth according to the cable burial risk assessment. The Applicant notes that this will take into account information from the post construction monitoring from Rampion 1, when publicly available. If it is not possible to bury a particular section of cable to the desired burial depth, cable protection will be considered as described in paragraph 4.3.68 within **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**). The provision of the cable protection plan is secured within Condition 11 (1)(i) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**).
1.16	9.9.26	… with the only anticipated overlap to a discrete area on the northern boundary of the Offshore Overfalls MCZ and the western boundary of the Kingmere MCZ	We feel the significance of this overlap is downplayed and should not be considered minor magnitude. An overlap is still affecting the MCZs even if only a discrete area within worst case scenario and should not be downplayed within the context of the wider network of MCZs.	The Applicant has provided detail within the assessment to describe why the impacts are deemed minor. The sensitivity of the feature is given due regard in the subsequent paragraphs, which attributes the value of MCZ features. For suspended sediment and deposition impacts sediment plume distances and modelling are provided in **Chapter 6: Coastal processes, Volume 2** of the ES **[APP-047]** and **Appendix 6.3: Coastal processes technical report: Impact assessment, Volume 4** of the ES **[APP-131],** which details that there will be a quick dissipation of the sediment plume and local nature (0-50m) of deposition impacts where smothering effects on benthic habitats and features might be observed. The impact of increased suspended sediment concentration (SSC) and deposition from construction activities is therefore expected to be short-term, intermittent and of relatively localised extent.
1.17	9.9.29	….it is noted that material excavated from HDD exit pits might also be temporarily stored within the offshore array area or export cable corridor, if and where designated as a spoil disposal area	We query whether the potential sites for storage have been considered for habitat sensitivities, as no specific locations have been noted. Additionally, if they are indeed temporary, we query how it will be possible to ensure all material is successfully retrieved? We would like to see a commitment to monitoring should this go ahead.	All relevant potential impacts arising from the deposition of spoil material arising from the Proposed Development have been assessed in relevant Chapters of the ES, recognising the occurrence of sensitive receptors in the area.
1.18	9.10.2	Table 9-15 identifies the maximum design scenario for foundation, scour and cable protection footprint. The total habitat loss arising from these components will be	This is a misrepresentation of the data. Given that the subsea environment and many of the habitats are three-dimensional, a figure in % is misleading and does not represent the true loss. Given the definition of magnitudes, permanent loss of habitat should be defined as 'moderate' or 'major'.	The assessment of permanent habitat loss is presented in Section 9 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**, with the sensitive features such as chalk afforded a 'high' sensitivity category within the assessment. The Applicant has provided its approach to minimising permanent loss of sensitive habitat within the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, which includes the use of specialist equipment to minimise impact footprints in such areas where full avoidance is not possible. The development of the

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		1.39km2 , which equates to approximately 0.6% of the proposed DCO Order Limits. Therefore, the magnitude of the impact is considered to be Negligible.		mitigation, which will be provided in the final mitigation Plan, forms an important component of the approach to ensuring the 'minor' magnitude impact assigned to benthic receptors is appropriate. The final Plan will be submitted to and approved in writing by the MMO, as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**. Alongside the Cable Specification and Installation Plan, Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**), both of which will draw upon the cable burial risk assessment (secured in Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**. The **Offshore In Principle Monitoring Plan [APP-240] (**as secured in Condition 11(1)(j) of the dMLs Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**) presents details of the monitoring proposals.
1.19	9.10.6	Given that the majority of habitats and characterising biotopes are not geographically restricted to the proposed DCO Order Limits and are generally widespread throughout the eastern English Channel region, impacts from individual operation and maintenance activities will represent a very small footprint compared to their overall extent	We feel significance of this is being downplayed – overall extent outside of the DCO Order Limits should not be relevant here and should not be used to contextualise loss or damage to habitats within the DCO Order Limits. We suggest that a strong commitment to micro-siting, extending to jack-up barges used during operational maintenance, particularly for sensitive features (e.g. chalk and biogenic reef), should be included	The Applicant has provided its approach to minimising impacts to sensitive habitats within the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, which includes the use of specialist equipment to minimise impact footprints in such areas where full avoidance is not possible. The final Plan will be submitted to and approved in writing by the MMO, as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**. Alongside the Cable Specification and Installation Plan, Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**), both of which will draw upon the cable burial risk assessment (secured in Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])** and informed by the pre-construction surveys to be undertaken post-consent, The **Offshore In Principle Monitoring Plan [APP-240] (**as secured in Condition 11(1)(j) of the dMLs Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**) presents details of the monitoring proposals.
1.20	9.10.10 – 9.10.12	Significance of residual effect	We disagree that the residual effect significance will be Minor (not significant) and query how this can be determined when installation techniques are not yet known. Additionally, reference to areas of impact being 'a relatively small portion' is meaningless – more precise figures should be used.	The Applicant is confident that with the approach to minimising impacts to sensitive habitats within the **In Principle Sensitive Features Mitigation Plan [REP1-012]**, this results in a reduction of magnitude on key sensitive features. The final Plan will be submitted to and approved in writing by the MMO, as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**. Alongside the Cable Specification and Installation Plan, Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**), both of which will draw upon the cable burial risk assessment (secured in Condition 11(1)(n) of the dMLs (Schedules 11 and 12 of the **Draft DCO [PEPD-009])** and informed by the pre-

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				construction surveys to be undertaken post-consent, which are secured in Condition 16(2) of the dMLs Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009])**.
1.21	9.10.22	The introduction of new hard substrate will represent a potential shift in the baseline condition within a small proportion of proposed DCO Order Limits.	We suggest the use of language should be reconsidered here; this does not represent a potential shift.	The Applicant notes this request; however, it should be highlighted that the impact is regarded as long-term habitat loss and therefore has been assessed as such.
1.22	9.10.27	Overall, it is predicted that the sensitivity of the receptor is Medium, and the magnitude is Minor.	We disagree that this should be considered minor magnitude due to the permanence of the change. We do not feel it is appropriate to suggest that changes in natural biodiversity are a benefit. Whilst there may be opportunities for biodiversity it is coincidental through introducing unnatural substrata.	The Applicant is clear within paragraphs 9.10.22 and 9.10.23, **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]** that any biodiversity and biomass increase as a result of introduction of new hard substrate may also have indirect adverse effects on the soft sediment communities and also represents a change in the baseline. The final sensitivity assessment is also regarded as medium and is not noted as positive to sediment biotopes.
1.23	C-269	Cable routeing design will be developed to ensure micrositing where possible to identify the shortest feasible path avoiding subtidal chalk and reef features and areas considered to potentially support black seabream nesting	We suggest that the commitment to micro-siting should extend to all priority habitats. We suggest that the commitment to micro-siting should also cover the use of machinery etc used during construction (eg. jack-up barges) – this should also extend to any operations / maintenance works. We suggest that the commitment to micro-siting should extend to offshore array and inter-array cabling. It is unclear what will happen where micro-siting is not possible (as this is specified in the commitment); we suggest a further commitment to habitat recovery as well as monitoring should be included.	The Applicant has committed to undertaking targeted pre-construction surveys of priority habitats as referenced in the **Offshore In Principle Monitoring Plan [APP-240]** and secured in Condition 16(2)(b) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**. The Applicant will ensure the extent of these features are mapped as part of these surveys and can confirm that these data will be less than two years old to inform installation and operation/maintenance activities. Proposals for micrositing around priority habitats, together with mitigations to be applied where avoidance is not possible, are presented within the **In Principle Sensitive Features Mitigation Plan [REP1-012]**. The final Plan is to be submitted to and approved in writing by the MMO, as secured in Condition 11(1)(k) of the dMLs (Schedules 11 and 12 of the **Draft DCO [PEPD-009]**). Additionally, Condition 11 (1)(a) of the dMLs (Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**) secures a design plan that must include details of any exclusion zones/ environmental micrositing requirements. The Applicant would also note that the assessment presented in **Chapter 9: Benthic Subtidal and Intertidal Ecology, Volume 2** of the ES **[APP-050]** includes consideration of the potential for indirect effects (SSC and deposition) as a result of operations and maintenance activities at the Proposed Development, making reference to the assessment presented for the same impacts arising from construction. Where micrositing has been required during construction, the Applicant asserts that the measure would be anticipated to provide for maintenance at the same infrastructure locations.
1.24	C-270	As part of the routeing design, a	We suggest that the distance(s) should be specified here.	The Applicant can confirm that working distances are presented within the **In Principle Sensitive Features Mitigation Plan [REP1-012]**.

Ref	Section	Subject	Written Representation Comment	Applicant's Response
		working separation distance (buffer) will be maintained wherever possible from sensitive features, notably black seabream nesting areas, as informed by the outputs of the physical processes assessment, to limit the potential for impacts to arise (direct or indirect)		
1.25	C-279	As part of the construction method statement, RED will produce a foundation installation methodology, including a dredging protocol, drilling methods and disposal of drill arisings and material extracted	We suggest the Beneficial Use of Dredged Material should be considered here to avoid unnecessary impact through disposal.	The Applicant refers the Sussex Wildlife Trust to the **Site characterisation report [APP-031].** This document provides a stand-alone characterisation of the Order limits area within which material arising from the Proposed Development will be disposed of and as required for a disposal licence application, considers options for alternative uses to in-situ disposal in line with the waste hierarchy (Defra, 2011). The Applicant draws specific attention to Section 3 of the document.

Table 2-4: Applicant's Response to The Littlehampton Society's Written Representation [REP1-165]

Ref	Comment	Applicant's Response
1.1	The Committee of The Littlehampton Society has the strong conviction that this Application is not an example of Sustainable Development.	The Applicant has no further comments on this matter at this time.
1.2	The negative impacts of Rampion 2 would demonstrably outweigh the National benefits. Adverse impacts would be felt by both current and future generations of residents and visitors, as well as wider UK society nationally in the form of opportunity costs. These deleterious effects are also experienced by the natural world – marine life will be literally blasted by the sonic arrays from piledriving the turbines into the seabed, with vast amounts of sediment disturbed, potentially smothering the returning kelp forests (in their infancy) and filter-feeder invertebrates. One of the most significant risks from this project (offshore) is that of non-native invasive species. This could be an organism that comes via the bottoms of support vessels and takes advantage of a non-native ecosystem. A good example of this is Slipper Limpets. Brought over from America in the 19th century, on the south coast the beaches are literally littered with them. They have exploited an ecosystem they are able to thrive in, at the expense of native creature. If the balance in the delicate ecosystem of the kelp beds is changed, the outcome could be disastrous. The kelp beds are a carbon sink and protect and feed countless marine creatures.	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 type is recognised as being a critical national priority which there is an urgent need to deliver in the revised National Policy Statement (NPS) EN-1 (Department for Energy Security and Net Zero (DESNZ), 2023a) and NPS EN-3 (DESNZ, 2023b) published in November 2023, which took effect in January 2024, and is a relevant consideration in the decision-making process. The assessment set out in **Chapter 29: Climate change, Volume 2** of the Environmental Statement (ES **[APP-070]** concludes the Proposed Development has a lifetime greenhouse gas (GHG) emissions saving of 35,901ktCO_2e. Section 5.4 of the **Planning Statement** **[APP-036]** summarises the potential environmental, social and economic benefits and the adverse impacts of the Proposed Development drawing on relevant information in line with NPS EN-1 (Department of Energy and Climate Change (DECC), 2011a and DESNZ, 2023a). Section 5.5 of the **Planning Statement** **[APP-036]** sets out the planning balance where the potential benefits and impacts of the Proposed Development are weighed up. Although, inevitably, there are adverse impacts associated with the scale and type of infrastructure that forms the Proposed Development, the Applicant considers that the planning balance is firmly in favour of the Proposed Development and the benefits outweigh the adverse impacts. The wider benefits of Rampion 2 and the need for offshore wind energy must be weighed against the adverse impacts that have been identified as well as any local issues and concerns. This balancing should also take into account national and international policies and obligations that seek to tackle climate change and achieve net zero carbon emissions in 2050. The Environmental Statement includes a series of chapters that address the potential effects for onshore and offshore ecology and habitats. These include the following aspect chapters: • **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**; • **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**; • **Chapter 11: Marine mammals, Volume 2** of the ES **[APP-052]**; • **Chapter 12: Offshore and intertidal ornithology, Volume 2** of the ES **[APP-053]**; and • **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**. The ES assessments undertaken have concluded that no significant effects on marine ecology, terrestrial ecology or ornithology are likely to occur as a result of the Proposed Development alone or with other relevant projects or plans taking account of environmental measures embedded into the design of the Proposed Development. Similarly, the **Habitats Regulations Assessment (Without Prejudice) Derogation Case** **[APP-039]** concludes that there will be no adverse effect to any of the protected sites assessed.

Ref	Comment	Applicant's Response
		Further to the Environmental Statement, a number of additional application documents have been submitted that are focused on onshore and offshore ecology and habitats: • **Report to Inform Appropriate Assessment [APP-038]**; • **Draft Marine Conservation Zone Assessment [APP-040]**; • **Outline Landscape and Ecology Management Plan [APP-232]**; • **Outline Project Environmental Management Plan [APP-233]**; • **Draft Unexploded Ordnance Clearance Marine Mammal Mitigation Protocol [APP-237]**; and • **In Principle Sensitive Features Mitigation Plan [REP1-012]**. Further to this the Applicant has submitted additional information regarding ornithology, underwater noise, marine mammals, offshore physical processes and benthic ecology, into the Examination following Issue Specific Hearing 1 at Deadline 1 (see **Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 1 - Further information for Action Point 3 – Fawley and Dungeness [REP1-019]**). The potential effects of the Proposed Development on the sea bed and kelp reserves has been addressed in the **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**. The impact of habitat disturbance will represent a local spatial extent, short term intermittent impact, affecting a relatively small portion of the benthic subtidal habitats in the proposed DCO Order Limits. However, the proposed export cable corridor will enter a recently designated "no-trawling zone" and a site for kelp restoration and protection (see paragraph 9.6.36 to 9.6.37 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**). Due to the short-term and localised nature of this impact and the tolerance and recoverability of the majority of the benthic receptors including kelp, the assessment concludes that is likely to be no significant effects on the sea bed or for kelp reserves. The Proposed Development includes implementation of embedded environmental measures (as shown in Table 9-16 of **Chapter 9: Benthic, subtidal and intertidal ecology**, Volume 2 of the ES [**APP-050**]) to avoid the introduction or spread of Marine Invasive Non-Native Species (INNS) through the implementation of the **Outline Project Environmental Management Plan [APP-233]** (commitment C-95). The Final PEMP will include a biosecurity plan to ensure that the risk of potential introduction and spread of Marine INNS from increased vessel activity is minimised as secured through the Final PEMP that is required under deemed Marine Licence Condition 11 of Schedules 11 and 12 of the **Draft Development Consent Order [PEPD-009]**).
1.3	The Rampion 2 proposed location, in our opinion, breaches the European Convention on Landscapes and defies the Governmental advice that NSIPs of this scale should be at least 25km from National Parks as they are highly sensitive receptors, places where people come from all around to relax, enjoy recreational activities and exercise. The South Downs National Park is protected and this includes the vistas enjoyed looking out from it. The cable route would, if granted, scar the National Park and also in the process tear up hedgerows, trees and disturb habitats, many of them irreplaceable.	NPS EN-3 (Department for Energy Security and Net Zero (DESNZ), March 2024) paragraph 2.8.208 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, a seascape, landscape and visual impact assessment should be undertaken in accordance with the relevant offshore wind farm EIA policy and the latest Offshore Energy SEA, including the White 2020 report".* Offshore Energy Strategic Environmental Assessment (OESEA) 4 (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*

Ref	Comment	Applicant's Response
		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)". The OESEA4 (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]**. In respect of the South Downs National Park (SDNP) and the Sussex Heritage Coast, the White 2020 report (White Consultants, March 2020) recommends a distance buffer of 40 km for wind turbine generators (WTGs) of 301-350m height based on a limit of visual significance (i.e. to achieve low magnitude of change on a high sensitivity receptor and therefore not significant). Rampion 2 cannot 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 the more distant areas of the SDNP fall into the low magnitude (35 – 44 km) category. **Chapter 15: Seascape, landscape and Visual Impact Assessment, Volume 2** of the ES [**APP-056**] and White 2020 Report (White Consultants, March 2020) would therefore align that based on distance, the magnitude of change would not be 'high' from the Heritage Coast or the wider open downs of the SDNP to the north. The Applicant has produced and submitted a **SLVIA Maximum Design Scenario and Visual Design Principles Clarification Note** **[REP1-037]** at Deadline 1, which provided further commentary on these SLVIA specific design principles. The methodologies that will be used to ensure onshore construction (including restoration) are undertaken in a sensitive and appropriate way can be found in the **Outline Construction Method Statement** **[APP-255]**, the **Outline Code of Construction Practice** **[APP-224]**, and the **Outline Landscape and Ecology Management Plan (LEMP)** **[APP-232]**. These documents are secured under Requirements 12, 22, and 23 of the **Draft Development Consent Order** **[PEPD-009]**. The Applicant also refers to the measures in the **Outline Soils Management Plan** **[APP-226]** as secured in the **Draft Development Consent Order** **[PEPD-009]** (updated at Deadline 2) by Requirement 22 (5) (f).
1.4	Infrasound from operation, including 'blade-thump' (a known phenomenon) are some examples of noises that cause stress-pattern behaviour in trials on rodents. This would be a sonic array over water – the high Sound Pressure Levels pushing lower frequencies (Hertz) towards the population could have devastating psychological and physiographical effects, compounded by the fact Littlehampton is one of the most deprived areas in the county. The Rampion 2 consultation procedure, in our experience, was not handled at all well. It was not convenient for our membership, many of who are elderly and not computer	Noise and vibration effects of the Proposed Development are assessed within **Chapter 21: Noise and vibration, Volume 2** of the Environmental Statement (ES) **[PEPD-018]** and the potential health effects from changes in noise exposure considered in **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**. The Applicant acknowledges the potential health effects associated with noise, however in this instance, the distance between the noise source and closest onshore receptor is such that it is unlikely to result in any change to the onshore noise environment. As a result, the consideration of health effects from operational noise associated with the wind turbine generators themselves have been scoped out (Table 28-10 within **Chapter 28: Population and human health, Volume 2** of the Environmental Statement (ES) **[APP-069]**).

Ref	Comment	Applicant's Response
	savvy, that the consultation was online almost in its entirety. This is an Nationally Significant Infrastructure proposal effecting every part of our town and the natural environment that surrounds it, being its best feature to help the community rise above the economic depression it easily slips into. Tourism is one of the most reliable forms of income for many businesses in Littlehampton. If tourism were disrupted, as it would be with a large-scale industrial power plant being installed and operating for 25 years, Littlehampton would inevitably sink deeper into economic depression. The government has awarded Littlehampton a Levelling Up Fund of several million pounds – this is for the Seafront Regeneration Scheme. The Levelling Up Fund goes hand in hand with the European Convention for Landscape – this policy recognises the need for landscape protection and giving communities a helping hand – this project would go against these objectives by its very existence.	The Applicant undertook a range of statutory and non-statutory consultations including both in-person events and online consultations in which it engaged with the wider public as set out in the **Consultation Report [APP-027]**. The statutory and non-statutory consultations included visualisations of the Proposed Development, in order to allow the public to understand its appearance and visual impacts from the initial early design and throughout the design evolution. As stated in the **Consultation Report [APP-027]**, the Applicant approach to stakeholder engagement including consultation has been based on best practice principles: a) Inclusivity – To involve the widest possible range of local stakeholders, local groups, local residents and businesses. To actively and extensively promote consultation to a wide and diverse community, and have an additional commitment to make particular efforts to involve traditionally 'hard-to-reach' stakeholders. b) Transparency – For plans to be visible and to be open and honest in approach. Activity will be well advertised in the local media, by direct communication with stakeholders, residents and businesses via a project website and other communication tools. c) Continuous dialogue – To encourage a continuous dialogue with all stakeholders. Comments, questions and suggestions are encouraged, and feedback will be obtained via various mechanisms. d) Multi-dimensional – A activity programme comprised of a wide range of ways in which information will be disseminated and opportunities for community involvement invited. This approach was subject to COVID 19 restrictions. e) Working in line with regulations and 'best practice' – To adhere to regulations and best practice guidelines for engagement and public consultation on planning and development issues. The Applicant used a range of communications channels to keep members of the public and interested stakeholders prior to and throughout the formal consultations including press releases and media, visitor centre, social media, contacting the project via writing/freephone/email/project website, and the project website. For all consultations leaflets were distributed to postal address with information about the consultation and how people can have their say. The consultation materials were made available at deposit locations (including Littlehampton Library) which were available for inspection, free of charge. Eleven local information points were identified with free public access internet which could be used to access the consultation information. These locations were set out in the s48 notice and promoted in printed Section 48 public notices and were chosen to provide a geographic range of options to reflect the communities consulted with. In addition, hard copies of the consultation materials could be requested directly from the Project. Hard copies could also be requested in another language, large print, audio or braille format (although no requests were received). To enable easy access to the consultation proposals across a circa 40km onshore cable route, the Applicant created an interactive map at the top of the webpage, allowing the visitor to select cable route areas from 1 – 7 to investigate the area most local to, or of most interest to them. The 7 areas are also recognisable via geographical references and place names. Upon clicking a cable route area, it was

Ref	Comment	Applicant's Response
		then broken down further into smaller sections e.g. a) b) c) etc, again easily identifiable via geographical references and place names. The consultation procedure undertaken by the Applicant for Rampion 2 has met the requirements for consultation that are specified in the Planning Act 2008 as confirmed by the acceptance of the DCO Application. Further information on the consultation undertaken by the Applicant can be found in the **Consultation Report** **[APP-027]**. **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** outlines relevant studies and evidence from offshore wind farms in the UK which show that there has been no evidence of overall negative impact on the tourism economy from the development of offshore wind farms in the UK and there are a number of UK offshore wind farms which are operational that are less than 25km from shore (including Westermost Rough, Humber Gateway, Lincs, Thanet, Kentish Flats Extension, Gwynt y Mor and Rampion 1). This evidence included analysis of tourism employment numbers for Rampion 1 which showed higher levels of tourism and employment across Sussex coastal seaside towns over the period in which Rampion 1 was operational compared to before Rampion 1 commenced construction. The assessment in **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** explores the impact on tourism and concludes that overall, when all influencing factors are considered, the effect of the Proposed Development on the volume and value of tourism across Sussex is expected to be negligible. While there may be some people with negative perceptions of offshore wind farms who may be deterred from visiting, these are likely to be small in number and could be offset by those who are more likely to visit the area due to the development of offshore wind. For example, those visiting the existing Rampion 1 visitor centre or those going on boat trips to the offshore infrastructure of the Proposed Development when operational.
1.5	Insects are in drastic decline and insect-die-off is a frightening phenomena. Any further stress on insect populations could spell disaster to humans but more importantly to all life – from plants to animals. The Applicant has not once mentioned insects in their Scoping Report, Preliminary Environmental Impact Report nor Environmental Statement. There are around 4 billion insects crossing the Channel annually for migration, along with them birds and bats. There is no mitigation for turbines in their path, in the zone of height where they fly. Most people are aware of the Lepidoptera Rhopalocera, butterflies, that migrate here I.e. Painted Lady from Africa to UK and back, there are 9 other butterflies that migrate to and fro the UK.1 Migrating Lepidoptera Heterocera, moths, there are 112 migrating Large moths that are labelled Rare, 13 that are labelled Red Data Book. There are 1600 species of Micro moth in UK, many of whom would be migrants. No figures as yet. There are many more orders of insect that migrate across the south coast of the UK. Diptera, flies Syrphidea, hoverflies. Between 1 and 4 million hoverflies migrate into and out of the UK each year. They consume 3 – 10 trillion aphids so provide an important pest control. They are also pollinators. "Migrant hoverflies play a vital role due to declines of other beneficial insects."	Impacts on birds, bats, insects, seahorse and crustaceans are assessed following relevant legislation and best practice in: • **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**; • **Chapter 12: Offshore and intertidal ornithology, Volume 2** of the ES **[APP-053]**; and • **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**. The following plans include relevant embedded environmental measures: • **Outline Landscape and Ecology Management Plan** **[APP-232]** secured via Requirement 12 of the **Draft Development Consent Order** **[PEPD-009]**; and • **In Principle Sensitive Features Mitigation Plan** **[REP1-012]** secured via Schedule 11, Part 2, Condition 11 (k) and Schedule 12, Part 2, Condition 11 (k) of the **Draft Development Consent Order** [**PEPD-009**]. **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]** assessed the potential effects of the Proposed Development on invertebrates which included surveying. Key habitats for terrestrial invertebrates are avoided by the onshore cable corridor or are crossed by trenchless crossings, and embedded environmental measures have been included in the DCO Application to minimise, reduce, and avoid potential effects. Terrestrial invertebrates were scoped out from requiring further assessment due to the lack of pathway of effects and limits potential scale of

Ref	Comment	Applicant's Response
	For three decades, scientists have reported the build-up of dead insects on wind turbine blades in different regions around the world. Researchers in Germany found a 76 percent decline in flying insects biomass in conducting a 27-year population monitoring study. The threat to insects is also a threat to birds and bats, and wind turbines are a threat in themselves to the latter. Researchers have found that wind turbines in Germany resulted in a loss of about 1.2 Trillion insects of different species each year. Insect die-off also reduces the efficiency of the wind turbines. In 2001, researchers calculated that the build-up of dead insects on wind turbine blades can reduce the electricity they generate by 50 percent. They found that wind turbines are akin to adding a top predator to the ecosystem, killing off birds, but allowing small animals to increase their populations resulting in a trickle effect throughout the ecosystem. Wind turbines are the single greatest human threat to migratory bats, which live in different habitats during summer and winter months. Germany says wind industry causes death of 1/3 of total migration in South England, comparison scientists say that equals 1 trillion per year. In 2007 researchers calculated that insects had been reduced by 50%, now 2023 it's by 70%. This figure shows the increase in Installed Global Wind Capacity (GW). It can be reasoned that insect mortality recorded would increase proportionate to higher installed wind capacity.	impact. Further recent reviews of potential ecological effects of offshore wind farms have not identified insect collision as a risk. These include a 2021 study completed on behalf of the International Union for Conservation of Nature (IUCN) (Bennun et al., 2021, see Appendix 28) and one published in the journal Nature in 2022 (Galparsoro et al., 2022). Migrating insects were not assessed as they were not raised in the **Appendix 5.1 Planning Inspectorate's Scoping Opinion, Volume 2** of the ES **[APP-125]** and the National Policy Statement for Renewable Energy Infrastructure (EN-3) (2023) is silent on the matter, although it specifically mentions collision risks associated with birds and marine mammals. Further recent reviews of potential ecological effects of offshore wind farms have not identified insect collision as a risk. The ES assessments undertaken have concluded that no significant effects on marine ecology, terrestrial ecology (including bats) or ornithology are likely to occur as a result of the Proposed Development alone or with other relevant projects or plans taking account of environmental measures embedded into the design of the Proposed Development. Similarly, the **Report to Inform Appropriate Assessment** **[APP-038]** concludes that there will be no adverse effect to any of the protected sites assessed.

Table 2-5: Applicant's Response to The Woodland Trust's Written Representation [REP1-167]

Ref	Written representation comment	Applicant's response
1.1	The Woodland Trust is the UK's largest woodland conservation charity and a leading voice in bringing to the attention of government, landowners and the general public the state of the UK's woods and trees. We own over 1,000 sites across the UK, covering over 30,000 hectares and we have over 500,000 members and supporters. The Trust also campaigns with the support of local communities, to prevent any further destruction of ancient woods and veteran trees. We are an evidence-led organisation, using existing policy and our conservation and planning expertise to assess the impacts of development on ancient woodland and veteran trees. Planning responses submitted by the Trust are based on a review of the information provided as part of a planning application. **Woodland Trust Position** The Woodland Trust holds concerns regarding the proposed route alignment corridor of Rampion 2 Offshore Windfarm on the basis of potential deterioration of ancient woodlands and veteran trees. Please see the appended table at the bottom of the document (Annex 1) for the woods and trees in question. **Ancient Woodland** Ancient woodland is an irreplaceable resource of great importance for its wildlife, soils, recreation, cultural value, historical and archaeological significance, and the contribution it makes to our diverse landscapes. It is a scarce and threatened resource, covering only 2.5% of England's land area, and has a high level of protection in planning policy. Natural England and the Forestry Commission, the Government's respective bodies for the natural environment, define ancient woodland as follows within their standing advice[1]: *"Ancient woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. It is a valuable natural asset important for: wildlife (which include rare and threatened species); soils; carbon capture and storage; contributing to the seed bank and genetic diversity; recreation, health and wellbeing; cultural, historical and landscape value. It has been wooded continuously since at least 1600AD. It includes:-* • *Ancient semi-natural woodland [ASNW] - mainly made up of trees and shrubs native to the site, usually arising from natural regeneration*. • *Plantations on ancient woodland sites [PAWS] - replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi"* Both ASNW and PAWS woodland are given equal protection in government's National Planning Policy Framework (NPPF) regardless of the woodland's perceived condition, its size, or the features it contains. In May 2022, the Government published an updated policy statement on ancient woodland, entitled 'Keepers of Time: ancient and native woodland and trees policy in England' [2] . The Government's 'Keepers of Time' policy accentuates the importance of ancient woodland, stating: "*Ancient woodlands, ancient wood pastures*	The retention and protection of valuable trees, including ancient woodland is recognised by the Applicant (see **Appendix 22.16: Arboricultural Impact Assessment, Volume 4** of the Environmental Statement (ES) **[APP-194]** and is reflected in the design of the Proposed Development and use of trenchless crossing techniques where possible and appropriate. All avoidance and mitigation measures regarding ancient woodland and veteran trees has been specified following information provided in Natural England and Forestry Commission's joint Standing Advice for Ancient Woodland and Ancient and Veteran Trees, updated in January 2022.These avoidance measures have evolved through the design process and are demonstrated by both the shape and location of the proposed DCO Order Limits (for example, where possible it has been drawn to exclude various ecological features including areas of ancient woodland and areas of Priority Habitat) and through Appendix B Vegetation Retention Plan of the **Outline Code of Construction Practice** **[PEPD-033]**. The Applicant can confirm no ancient woodland or veteran trees will be lost to the Proposed Development. Commitment C-216 within the **Commitments Register** **[REP1-015]** has been updated at the Deadline 1 submission (please see the Applicant's response to **Reference 1.2** below for details on the changes made at Deadline 1). Similarly veteran trees would have an appropriate stand off (as per UK Government guidance Natural England and Forestry Commission, 2022) applied (commitment C-174 within the **Commitments Register** **[REP1-015]** provided at Deadline 1 submission). The Applicant notes that the onshore cable is to be placed in ducts to allow any cable repairs to be carried out at joint bays, as opposed to digging down to the fault. No joint bays will be present within ancient woodland.

[1] Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)
[2] Keepers of time: ancient and native woodland and trees policy in England - GOV.UK (www.gov.uk)

Ref	Written representation comment	Applicant's response
	and parkland and ancient and veteran trees are irreplaceable habitats which must be protected. Their long-standing presence, species and form serve as a rich cultural record of past management practices." As a result of its great age, ancient woodland is characterised by a unique, complex and irreplaceable ecosystem of plants and animals, both above ground and in the soils. It is therefore impossible to recreate the ecosystem of an ancient woodland by planting new woodland. This is widely recognised by experts and by Natural England and the Forestry Commission in their joint standing advice. **Veteran Trees** Ancient and veteran trees are irreplaceable habitats and afforded a high level of protection in planning policy. Ancient and veteran trees possess unique features which provide a rich and diverse range of habitats, playing host to countless other species. In particular, many rare invertebrate, fungi and lichen species are dependent on the decaying wood provided by such trees[3] . Veteran trees are disproportionately valuable parts of the natural environment and where they occur outside of woods they are also particularly important for landscape connectivity.[4] They are also an essential part of our landscape and cultural heritage. Natural England and Forestry Commission's standing advice on ancient and veteran trees states that they *"can be individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks or other areas. They are often found outside ancient woodlands. They are also irreplaceable habitats.* *"A veteran tree may not be very old, but it has significant decay features, such as branch death and hollowing. These features contribute to its exceptional biodiversity, cultural and heritage value.* *"An ancient tree is exceptionally valuable. Attributes can include its: great age; size; condition; biodiversity value as a result of significant wood decay and the habitat created from the ageing process; and cultural and heritage value."* The Planning Practice Guidance (PPG) for Natural Environment[5] provides additional clarity on the status of ancient and veteran trees. It states: *"Ancient trees are trees in the ancient stage of their life. Veteran trees may not be very old but exhibit decay features such as branch death or hollowing. Trees become ancient or veteran because of their age, size or condition. Not all of these three characteristics are needed to make a tree ancient or veteran as the characteristics will vary from species to species."* As with ancient woodland, Government's 'Keepers of Time' policy expresses the importance of ancient and veteran trees: *"Ancient and veteran trees are rich in biodiversity. They provide food, shelter and breeding sites to large numbers of species including birds, bats, fungi and insects, which are often restricted in their distribution. They can be found both inside and outside of woodlands."* **Planning Policy** Paragraph 5.3.14 of the Overarching National Policy Statement for Energy (EN-1) states: *"Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The IPC should not grant development consent for any development that would result*	

[3] https://www.ancienttreeforum.org.uk/wp-content/uploads/2015/02/ancient-tree-guide-6-special-wildlife.pdf
[4] Ancient and veteran trees: A Assessment Guide - Woodland Trust
[5] Natural environment - GOV.UK (www.gov.uk)

Ref	Written representation comment	Applicant's response
	in its loss or deterioration unless the benefits (including need) of the development, in that location outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why." The draft revised Overarching National Policy Statement for Energy (EN-1) published March 2023 outlines the following: 5.4.32: *"Applicants should include measures to mitigate the direct and indirect effects of development on ancient woodland, veteran trees or other irreplaceable habitats during both construction and operational phase."* 5.4.54: *"The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of any irreplaceable habitats, including ancient woodland, and ancient or veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists."* The National Planning Policy Framework, paragraph 186, states: "When determining planning applications, local planning authorities should apply the following principles: *c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;"*	
1.2	**Impacts to Ancient Woodland** We are specifically concerned about the following impacts to the ancient woodlands in question: • We understand that trenchless crossings are proposed for a number of ancient woodlands within the corridor route to a depth of six metres. • Permanent fragmentation due to the removal of adjacent semi-natural habitats, such as small wooded areas, hedgerows, individual trees and wetland habitats if continued access to the cable once constructed is required. • Noise and dust pollution impact to woodlands within close proximity of the cable installation area. • The potential for trampling of sensitive ancient woodland flora and soils if access is required within any ancient woodland.	Section 7.8 within **Appendix 22.16: Arboricultural impact assessment, Volume 4** of the ES **[APP-194]** consider impacts of the Proposed Development on Ancient Woodland and states that there would be no loss or deterioration of Ancient Woodland arising from the Proposed Development. The design of the onshore cable installation ensures that Ancient Woodland at Michelgrove Park and Calcot Wood will be crossed via trenchless methods. All avoidance and mitigation measures regarding ancient woodland and veteran trees has been specified following information provided in Natural England and Forestry Commission's joint Standing Advice for Ancient Woodland and Ancient and Veteran Trees, updated in January 2022. In addition, commitment C-216 (**Commitments Register [REP1-015]**) (updated for the Deadline 1 submission) ensures that: • all ancient woodland will be retained; • a stand-off of a minimum of 25m from any surface construction works will be maintained in all locations from cable installation works; and construction traffic may operate within 25m of an ancient woodland on existing tracks, with any track maintenance works being restricted to the current width. Works to provide safe access from the highway are

Ref	Written representation comment	Applicant's response
		required in three locations within 25m of ancient woodland notably accesses A-42, A-56 and A-57. At these locations specific design measures detailed in the **Outline CoCP** **[PEPD-033]** will manage any potential indirect effects on ancient woodland. An assessment of the potential effects on ancient woodland and veteran trees is provided in Section 22.9 of **Chapter 22 terrestrial Ecology and Nature Conservation, Volume 2** of the ES **[APP-063]**. Commitment to the use of trenchless crossings has been assigned for ancient woodland at Michelgrove and Calcot Wood to avoid loss of irreplaceable habitat. It is noted that ancient woodland has been crossed for the purposes of delivering transmission cables for offshore windfarms previously, for example the consented and now operational East Anglia One project. The trenchless crossing would be at a minimum depth of 6m (i.e. the drill head would likely be below this depth for all or the majority of the crossing) as specified in commitment C-216 (see **Commitments Register** **[REP1-015]**) and secured through Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]** which requires delivery of stage specific Code of Construction Practice documents for agreement with the relevant local planning authority and statutory nature conservation agency. Habitats along the onshore cable route will be replaced following installation of cable ducts (secured through Requirements 12, 13 and 22 of the **draft Development Consent Order** **[PEPD-009]** that specify the need to submit stage specific Code of Construction Practice documents and Landscape and Ecology Management Plans for agreement with the relevant local authorities and Natural England). No new access roads or access points used to deliver the Proposed Development are to be retained. All operational access uses existing accesses and needs to be passable by a 4 x 4 or light van (see **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]**). Commitment C-216 (**Commitments Register** **[REP1-015])** provides a 25m stand-off from surface construction works (in excess of the minimum recommended in standing advice from Natural England and the Forestry Commission (2022)) other than at three access points: • access A-42 – where a 15m buffer is maintained to ancient woodland edge from a new access point from The Pike. This is to maintain a category A ash tree standing at the field corner; • access A-56 - where ancient woodland lies adjacent to the north side of Green Tree Lane (a tarmacked access) and work is required

Ref	Written representation comment	Applicant's response
		on the southern side of the turn in from the A281 to make it appropriate for construction vehicles; • access A-57 –is needed on the on the eastern edge of the A281 opposite the same ancient woodland described at A-56. The Applicant notes that the minimum 15m stand off distance in the standing advice from Natural England and the Forestry Commission (2022) has been accepted as appropriate for avoiding indirect effects for Nationally Significant Infrastructure Projects including Hornsea 3 Offshore Wind Farm and the Southampton to London Pipeline Project. Therefore, the Applicant is confident that the buffer in place is appropriate. The pedestrian monitoring of the progress of the horizontal directional drill (HDD) (including beneath Ancient Woodland) is non-intrusive with personnel utilising hand-held equipment. Commitment C-207 provides for an Ecological Clerk of Works (EcoW) within the **Outline CoCP [PEPD-033]** which is secured through Requirement 22 of the **Draft Development Consent Order [PEPD-009]**. The EcoW would be expected to be in place for any works that involve sensitive ecological features such as HDD crossings of Sites of Special Scientific Interest, ancient woodland or Local Wildlife Sites. Both of these areas of woodland are dominated by plantation and have an open ground flora meaning that vegetation removal (e.g. cutting back bramble) is unlikely to be necessary.
1.3	**Mitigation for ancient woodland** Detrimental edge effects have been shown to penetrate woodland causing changes in ancient woodland characteristics that extend up to three times the canopy height in from the forest edges. As such, it is necessary for mitigation to be considered to alleviate such impacts. Natural England and the Forestry Commission's standing advice contains guidance on mitigation measures to alleviate impacts on ancient woods and trees (annexed to this letter). Potential mitigation approaches for the protection of ancient woodland are outlined in our Planners' Manual[6]. Such approaches would help ensure that the development meets policy requirement and guidance, including: • Non-invasive root investigation for ancient trees and protection beyond the limit of the usual investigative tools. • Measures to control noise, dust and other forms of water and airborne pollution. • Sympathetic design and use of appropriate lighting to avoid light pollution. • Implementation of an appropriate monitoring plan to ensure that proposed measures are effective over the long term and accompanied by contingencies should any conservation objectives not be met. • Retaining and enhancing natural habitats around ancient woodland to improve connectivity with the surrounding landscape.	All active working areas will be fenced (see **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]**), noise and light are controlled for through commitments C-26 and C-105 respectively (see **Commitments Register [REP1-015]**) and a buffer zone has been created (see commitment C-216 in the **Commitments Register [REP1-015]**). Both of these commitments are secured through Requirement 22 of the **Draft Development Consent Order [PEPD-009]** via the production of stage specific Code of Construction Practice documents for agreement with the relevant local planning authority, in consultation with the statutory nature conservation body. The Applicant is satisfied that the mitigation measures provided in the standing advice of Natural England and the Forestry Commission will be adhered to. This includes measures to manage chemical pollutants (C-76), and dust (C-24), noise (C-26) and light (C-105) and maintain a buffer zone (C-216) (please see **Commitments Register [REP1-015]** for details). These commitments will be described in detail within stage specific Code of Construction Practice documents, secured through Requirement 22 of the **Draft Development Consent Order [PEPD-009]**.

[6] planners-manual-for-ancient-woodland.pdf (woodlandtrust.org.uk)

Ref	Written representation comment	Applicant's response
	• Woodland restoration – such as in PAWS. • Introduction of sympathetic management for neglected woodlands or trees.	
1.4	Buffering Buffering ancient woodland can be an ideal mitigation measure as buffer zones can be used to establish distance between the development and habitat, which helps to alleviate harmful impacts, while also creating new areas of habitat around the ancient woodland. As outlined in our statutory consultation responses, we acknowledge that 25 metre buffers have been afforded to ancient woodlands adjacent to the scheme boundary. However, any opportunities to increase the buffer zone further should be considered. If not appropriately accounted for, trees may become subject to removal if they are considered to impact on the cables belowground, affecting their long-term viability. During construction, HERAS fencing fitted with acoustic and dust screening measures should be put in place to ensure that the buffer zone does not suffer from encroachment of construction vehicles/stockpiles. We wish to refer you to Natural England and Forestry Commission's standing advice which states that *"the proposal should have a buffer zone of at least 15 metres from the boundary of the woodland to avoid root damage (known as the root protection area). Where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic."* Further information on buffer zones is outlined in the annex below.	The value and protection of ancient woodland is recognised in the **Appendix 22.16: Arboricultural Impact Assessment, Volume 4** of the ES **[APP-194]** and reflected in the design of the Proposed Development which has evolved to avoid the requirement for any loss or disturbance of this habitat. Commitment C-216 of the **Commitments Register [REP1-015]** is secured via Requirements 22 and 23 of the **Draft DCO [PEPD-009]** and states that '*Where ancient woodland is crossed via trenchless crossing a depth of at least 6m below ground will be maintained to avoid root damage and drill launch and retrieval pits will be at least 25m from the woodland edge. All ancient woodland will be retained with a stand-off of a minimum of 25m from any surface construction works. Construction traffic may operate within 25m of an ancient woodland on existing tracks should any track maintenance works be restricted to the current width*.' The proposed 25m stand-off is substantially more than the 15m minimum recommended by Natural England and Forestry Commission Standing Advice (2022). It is notable that operational access routes do occur close to or through ancient woodland using existing tracks. There is no proposed works on these access routes and they would be used infrequently (i.e. once or twice per year) by a light van or 4x4; therefore no damage to ancient woodland would be expected. Further, the cable is being installed within ducts so that any faults that may require cable repair can be made by pulling the cable back through to the closest joint bay as opposed to digging out from above.
1.5	Trenchless crossings We understand that four areas of ancient woodland are to be subject to trenchless crossings in order to limit the removal of irreplaceable ancient woodland soils during construction. We primarily advocate for the redirection of any cabling that is presently proposed through ancient woodland areas. However, if the Inspector is minded towards granting consent for the development then we would appreciate further clarification on the technique used for these crossings and any potential impacts posed. The application documents outline that the minimum drill depth under ancient woodlands will be six metres. We consider that the roots and rooting environment of ancient woodland trees is highly unlikely to extend this deep, however, we would expect to see full evidence that this would not be the case and that the ancient woodland would be unaffected by this aspect of the development, during both construction and operation. We would also expect to see some form of evidence to demonstrate that the works would not result in any hydrological changes or altering of soil conditions within the ancient woodland. Furthermore, we note that maintenance works will require access into the woodland, which could lead to surface-level disturbance and damage. It is not clear what works will be proposed in terms of direct access to the cable, or whether any maintenance works can be undertaken remotely from the surface as a result of this technique.	There are two trenchless crossings of ancient woodland (at Michelgrove Park and Calcot Wood), although the inventory maps indicate three separate blocks in the area of the Michelgrove crossing where optionality is retained for final design. A description of trenchless crossing technique is provided in **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**, with further localised detail proposed following the granting of development consent through the detailed design phase. The Applicant notes that the onshore cable is to be placed in ducts to allow any cable repairs to be carried out at joint bays, as opposed to digging down to the fault. No joint bays will be present within ancient woodland. Please see response in **Reference 1.6**.

Ref	Written representation comment	Applicant's response
1.6	**Veteran trees** While we acknowledge that the applicants have afforded the veteran trees along the route with buffer zones in line with Natural England/Forestry Commission's standing advice, we would seek confirmation that the veteran buffer zones of T367 and T1199 are wholly protected from the works via a commitment from the applicants as part of the examination process.	Veteran tree protection is described through commitment C-174 (**Commitments Register [REP1-015])**, which is secured through the stage specific Code of Construction Practice documents, via Requirement 22 of the **Draft Development Consent Order [PEPD-009]** which has been updated at the Deadline 2 submission. This ensures that both T367 and T1199 will be wholly protected.
1.7	**Conclusion** Ancient woodland is an irreplaceable habitat, once lost it is gone forever. Any development resulting in loss or deterioration of ancient woodland must consider all possible measures to ensure avoidance of adverse impact. At present, the Woodland Trust does not hold full confidence that the proposed development would avoid harm and deterioration of ancient woodland and veteran trees. We would welcome further clarification on the points we have raised within this representation.	The Applicant has no further comment on this matter at this time.
1.8	Annex 1:	The Applicant has no further comment on this matter at this time.

Section	Ancient woodland/tree	Designation	Grid reference	Impacts
Work no. 9	Michelgrove Park	PAWS	TQ0761008058	Trenchless crossing
	T1199	Veteran	TQ0745708015	VTB enc. from alternative trenchless crossing compound boundary
	Oaken Copse	PAWS	TQ0741908388	Trenchless crossing
	Beech Copse	ASNW	TQ0754108694	Trenchless crossing and proximity to alternative trenchless crossing compound boundary
	Calcot Wood	PAWS	TQ1735614905	Trenchless crossing
	T367	Veteran	TQ2288821730	VTB enc. from open-cut indicative corridor
Work no. 19	Priorsbush	ASNW	TQ2429321503	Adjacent to open-cut indicative corridor (approx. 25m)
	Priorsbush	ASNW	TQ2434521366	

Ref	Written representation comment	Applicant's response
1.9	Annex 2: **Natural England and Forestry Commission's standing advice:** ***Ancient woodland, ancient trees and veteran trees: advice for making planning decisions*** ***Direct and indirect effects of development:*** *Development, including construction and operational activities can affect ancient woodland, ancient and veteran trees, and the wildlife they support on the site or nearby.* *Direct effects of development can cause the loss or deterioration of ancient woodland or ancient and veteran trees by:* • *damaging or destroying all or part of them (including their soils, ground flora or fungi)* • *damaging roots and understorey (all the vegetation under the taller trees)* • *damaging or compacting soil* • *damaging functional habitat connections, such as open habitats between the trees i wood pasture and parkland* • *increasing levels of air and light pollution, noise and vibration* • *changing the water table or drainage* • *damaging archaeological features or heritage assets* • *changing the woodland ecosystem by removing the woodland edge or thinning tree - causing greater wind damage and soil loss* *Indirect effects of development can also cause the loss or deterioration of ancient woodland ancient and veteran trees by:* • *breaking up or destroying working connections between woodlands, or ancient tree or veteran trees - affecting protected species, such as bats or wood-decay insects* • *reducing the amount of semi-natural habitats next to ancient woodland that provid important dispersal and feeding habitat for woodland species* • *reducing the resilience of the woodland or trees and making them more vulnerable to change* • *increasing the amount of dust, light, water, air and soil pollution* • *increasing disturbance to wildlife, such as noise from additional people and traffic* • *increasing damage to habitat, for example trampling of plants and erosion of soil by people accessing the woodland or tree root protection areas* • *increasing damaging activities like fly-tipping and the impact of domestic pets* • *increasing the risk of damage to people and property by falling branches or trees requiring tree management that could cause habitat deterioration* • *changing the landscape character of the area* ***Mitigation measures*** *Mitigation measures will depend on the type of development. They could include:* • *putting up screening barriers to protect ancient woodland or ancient and veteran trees from dust and pollution* • *measures to reduce noise or light* • *designing open space to protect ancient or veteran trees* • *rerouting footpaths and managing vegetation to deflect trampling pressure away from sensitive locations* • *creating buffer zones*	The Applicant has no further comment on this matter at this time.

Ref	Written representation comment	Applicant's response
1.10	***Use of buffer zones*** *Buffer zones can protect ancient woodland and individual ancient and veteran trees and provide valuable habitat for woodland wildlife, such as feeding bats and birds. The size and type of buffer zone should vary depending on the:* • *scale and type of development and its effect on ancient woodland, ancient and veteran trees* • *character of the surrounding area* *For example, larger buffer zones are more likely to be needed if the surrounding area is:* • *less densely wooded* • *close to residential areas* • *steeply sloped* ***Buffer zone recommendations*** *Where possible, a buffer zone should:* • *contribute to wider ecological networks* • *be part of the green infrastructure of the area* *A buffer zone should consist of semi-natural habitats such as:* • *woodland* • *a mix of scrub, grassland, heathland and wetland* *The proposal should include creating or establishing habitat with local and appropriate native species in the buffer zone.* *You should consider if access is appropriate. You can allow access to buffer zones if the habitat is not harmed by trampling.* *You should not approve development proposals, including gardens, within a buffer zone.* *You should only approve sustainable drainage schemes if:* • *they do not affect root protection areas* • *any change to the water table does not negatively affect ancient woodland or ancient and veteran trees*	The Applicant has no further comment on this matter at this time.

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Appendix A
Applicant's Response to CowfoldvRampion's Written Representations [REP1-089]

Rampion 2 Wind Farm

Appendix A: Applicant's Response to CowfoldvRampion's Written Representations

Date: March 2024

Application Reference: 8.53
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Executive Summary

At Deadline 1 of the Examination for Rampion 2 Offshore Wind Farm Project, Interested Parties were invited to submit Written Representations and Post-hearing submissions following Issue Specific Hearing 1 (held 07 to 08 February 2024) into the examination. A total of 8 Written Representations were received from Non-prescribed bodies.

Rampion Extension Development Limited (the 'Applicant') has taken the opportunity to review each of the Written Representations received from Non-prescribed bodies, this document provides the Applicant's responses and has been submitted for Examination Deadline 2.

1. Introduction

1.1 Project Overview

1.1.1 Rampion Extension Development Limited (hereafter referred to as 'RED') (the 'Applicant') is developing the Rampion 2 Offshore Wind Farm Project ('Rampion 2') located adjacent to the existing Rampion Offshore Wind Farm Project ('Rampion 1') in the English Channel.

1.1.2 Rampion 2 will be located between 13km and 26km from the Sussex Coast in the English Channel and the offshore array area will occupy an area of approximately 160km^2. A detailed description of the Proposed Development is set out in **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]**, submitted with the Development Consent Order (DCO) Application.

1.2 Purpose of this document

1.2.1 Interested Parties were invited to submit Local Impact Reports, Written Representations, and Post-hearing submissions at Deadline 1 (28 February 2024) following Issue Specific Hearing 1 (held 07 to 08 February 2024) to provided further information and to expand on views provided in Relevant Representations previously submitted in accordance with the Examination timetable in the Rule 8 letter **[PD-007]**. Please see below for a summary of the submissions received at Deadline 1, as categorised by the Planning Inspectorate:

- 6 submissions from Local Planning Authorities;
- 5 submissions from parish and towns councils and Members of Parliament;
- 6 representations from prescribed consultees;
- 28 representations from and on behalf of Affected Parties;
- 44 representations from members of the public or businesses; and
- 8 representations from non-prescribed organisations.

1.2.2 The Applicant has taken the opportunity to review each of the Local Impact Reports, Written Representations, and Post-hearing submissions received. This document provides the Applicant's responses to CowfoldvRampion (Non-prescribed organisation) and has been submitted for Examination Deadline 2.

1.3 Structure of the Applicant's Responses

1.3.1 For ease of referencing and to facilitate future cross-referencing, the Applicant has included references for the Applicant's responses to the Local Impact Reports, Written Representations, and Post-hearing submissions received from other Interested Parties, as follows:

- Local Authorities (including both host and neighbouring authorities):

- Arun District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.44**));
- Brighton and Hove City Council (**Applicant's Responses to Brighton and Hove City Council Deadline 1 Submissions** (**Document Reference: 8.48**));
- Horsham District Council (**Applicant's Responses to Horsham District Council Deadline 1 Submissions** (**Document Reference: 8.45**));
- Mid Sussex District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.46**));
- South Downs National Park Authority (**Applicant's Responses to South Downs National Park Authority Deadline 1 Submissions** (**Document Reference: 8.47**)); and
- West Sussex County Council (**Applicant's Responses to West Sussex County Council Deadline 1 Submissions** (**Document Reference: 8.43**)).

- Parish Councils and Members of Parliament (**Applicant's Responses to Parish Councils and MP's Written Representations** (**Document Reference: 8.37**));
- Prescribed Consultees (as set out in Schedule 1 of the Infrastructure Planning (Application: Prescribed Forms and Procedures) Regulations 2010, noting that Parish Councils are also Prescribed Consultees) (**Applicant's Responses to Prescribed Consultee's Written Representations** **(Document Reference: 8.49)**);
- Affected Parties (Category 1, 2 and 3 Land Interests as identified in the **Book of Reference** **[PEPD-014]**) (**Applicant's Responses to Affected Parties' Written Representations** (**Document Reference: 8.51**));
- Members of the Public and Businesses (**Applicant's Responses to Members of the Public and Businesses' Written Representations** (**Document Reference: 8.52**)); and
- Non-Prescribed Consultees (this document: **Applicant's Responses to Non-Prescribed Consultee's Written Representations** (**Document Reference: 8.53**)).

1.3.2 The Applicant has reviewed the Written Representation (and 'Impact Statement') submitted by CowfoldvRampion and has provided a response to each section below. An overarching response has been provided to the key themes raised in the Introduction and Executive Summary section of the CowfoldvRampion Impact Statement in this section of the Applicant's response.

1.4 Response to Executive Summary

1.4.1 The Applicant has undertaken an Environmental Impact Assessment (EIA) which considers and assesses the likely significant effects of the Proposed Development. The Environmental Statement (ES) **Volume 2** of the ES **[APP-042 to APP-072]**, and **Volume 4** of the ES **[APP-120 to APP-222]**, reports the findings of the EIA. The ES also provides information about the Proposed Development including its

context, a full description of the Proposed Development and its construction, the main alternatives considered, the consultation process that was part of the EIA, and any relevant technical information that has been used to assess the likely significant effects of the Proposed Development. The ES and includes a series of chapters that consider and assess the likely significant effects of the Proposed Development in relation to each relevant environmental aspect. These include the following onshore aspect chapters:

- **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]**;
- **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP 059]**;
- **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**;
- **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**;
- **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**;
- **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**;
- **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**;
- **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**;
- **Chapter 26: Water environment, Volume 2** of the ES **[APP-067]**; and
- **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**.

1.4.2 There have been opportunities for the development of environmental measures which have been adopted to reduce the potential for environmental impacts and effects. These were included directly into the design of The Proposed Development as embedded environmental measures and are detailed in the **Commitments Register** **[REP1-015]** (updated at the Deadline 1). The Commitments Register was initially presented in the Scoping Report and subsequently updated throughout the Statutory Consultation exercises and in the Environmental Statement to reflect design evolution and consultation feedback. Further to this, a number of management plans have been included in the DCO Application such as **Outline Code of Construction Practice** **[PEPD-033]** which provide the details of the proposed embedded environmental measures to manage effects during the construction phase and is secured by Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]**.

1.4.3 Matters raised in the Executive Summary are dealt with as they arise in the detail sections hereafter.

2. Policy and legislation

2.1 National Policy Statements

2.1.1 A suite of new National Policy Statements (NPS) for Energy was published by the Government in November 2023, and subsequently designated by Parliament in January 2024.

2.1.2 Section 1.6 of NPS EN1 ('*Overarching National Policy Statement for Energy*') sets out a transitional arrangement confirming that for DCO applications accepted for examination before designation of the 2023 amendments '*the 2011 suite of NPSs should have effect in accordance with the terms of those NPS*.'

2.1.3 As the Rampion 2 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 new NPSs. However, the Applicant accepts that the NPSs designated in January 2024 are potentially capable of being important and relevant considerations. To assist the Examination, the Applicant has provided a NPS review document (**Statement on the implications of the 2023 National Policy Statements [REP1-031]**) at Deadline 1 to provide a comparison of significant changes between the draft NPSs of March 2023 against the NPS as subsequently designated by Parliament in January 2024.

2.1.4 Further to this, the Applicant has submitted a NPS accordance tracker showing compliance with the 2011 and 2023 NPS, which came into force in 2024, at Deadline 2 (see **Applicant's National Policy Statement Tracker (Document Reference: 8.38)**).

2.2 Alternatives

2.2.1 The Applicant has followed an iterative design process, refining the proposals over the course of the development. This is described in **Chapter 3 Alternatives, Volume 2** of the ES **[APP-044]**. Offshore, the turbine array has been reduced in size following feedback, and onshore a series of consultations presented three, then two, potential substation sites for public feedback before the site selection was made. Five different routes across the South Downs were assessed and presented for statutory consultation before the cable route was selected. This is explored further in the following section.

2.3 Mitigation hierarchy

2.3.1 The Applicant has followed the mitigation hierarchy when designing the Proposed Development. The design in the first instance has sought to avoid permanent or temporary loss of the most sensitive habitats, minimise the permanent and temporary loss of sensitive habitats that could not be avoided, provide mitigation aimed at reducing the level of effect and provided a route to the provision of both compensation and Biodiversity Net Gain (BNG). A commitment to delivering BNG

of at least 10% has also been made by the Applicant despite it not being mandatory for Development Consent Order projects until April 2025.

2.3.2 The Proposed Development will contribute to improve, enhance, manage and restore biodiversity through delivery of BNG. The Biodiversity Net Gain strategy is committed to through C-104 (see **Commitments Register [REP1-015]**) and secured via Requirement 14 of the Draft Development Consent Order **[PEPD-009]** (updated at Deadline 2). The delivery of BNG will follow the approach described in **Appendix 22.15: Biodiversity Net Gain Information, Volume 2** of the ES **[APP-193]**. The delivery of BNG will be front-loaded and specific to individual stages of development (e.g. substation delivery, grid connection works, cable installation between points A and B). The location of BNG measures are unknown at this stage but identification of suitable units for sale is based on a series of criteria with the first being investigating options on land owned by affected parties within the proposed DCO Order Limits or within 2km of it, followed by a search in the same area for opportunities with emphasis on those that may support local strategic objectives.

2.3.3 The Proposed Development will result in the temporary and permanent loss of habitats during the installation of the transmission cables and the construction of the onshore substation and grid connection. As part of the design the degree of habitat loss has been minimised, with the most sensitive habitats avoided wherever possible. All habitats subject to temporary loss will be reinstated as described in the **Outline Landscape and Ecology Management Plan [APP-232]** secured via Requirement 12 of the **Draft Development Consent Order [PEPD-009]**. This document is to be updated by the Applicant (at Deadline 3) to reflect discussions held with stakeholders, including incorporation of tree replacements described in the **Appendix 22.16: Arboricultural Impact Assessment [APP-194]** (secured via the **Outline Code of Construction Practice [PEPD-033]** through Requirement 22 of the **Draft Development Consent Order [PEPD-009]**) into the wider framework of the **Outline Landscape and Ecology Management Plan [APP-232]**. The reinstatement has been considered within the assessment as the realistic worst case which is the replacement of habitat like for like (i.e. the opportunity for enhancement is not considered). This is because agreements with individual landowners can only be made when a detailed design is understood and a delivery schedule known. Regardless of the reinstatement (and any associated localised enhancements delivered in tandem in practice), it is likely that there will remain a shortfall of units to reach 'no net loss' (i.e. compensation) and subsequently BNG. This shortfall will be delivered through BNG as secured via Requirement 14 of the **Draft Development Consent Order [PEPD-009]**.

2.4 Sustainability

2.4.1 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 type is recognised as being a critical national priority in the revised National Policy Statement (NPS) EN-1 (Department for Energy Security and Net Zero (DESNZ), 2023a) and NPS EN-3 (DESNZ, 2023b), which came into force in January 2024 and are considered to be relevant to the determination of

the DCO Application. 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.

2.4.2 The Proposed Development will contribute materially towards meeting the urgent national need for renewable electricity, significantly reducing carbon emissions from energy. The assessment set out in **Chapter 29: Climate change, Volume 2** of the ES **[APP-070]** concludes the Proposed Development has a lifetime greenhouse gas (GHG) emissions saving of 35,901 kilotonne carbon dioxide equivalent ($ktCO_2e$). The Proposed Development will continue to offset greenhouse gas (GHG) emissions until 2050, and therefore make a positive contribution the UK Government target to reach net zero emissions in 2050.

2.4.3 Section 104 of the Planning Act 2008 outlines that the DCO Application must be decided in accordance with the relevant NPS (in this case: NPS EN-1 (Department of Energy and Climate Change (DECC), 2011a), NPS EN-3 (DECC, 2011b) and NPS EN-5 (DECC, 2011c) with NPS EN-1 (DESNZ, 2023a), NPS EN-3 (Department for Energy Security and Net Zero (DESNZ), 2023b) and NPS EN-5 (DESNZ, 2023c), that came into force in 2024, relevant considerations in the decision-making process) unless (inter alia) the adverse impacts of a proposal would outweigh its benefits. Section 5.4 of the **Planning Statement** **[APP-036]** summarises the potential environmental, social and economic benefits and the adverse impacts of the Proposed Development drawing on relevant information in line with NPS EN-1 (DECC, 2011a and DESNZ, 2023a). Section 5.5 of the **Planning Statement** **[APP-036]** sets out the planning balance where the potential benefits and impacts of the Proposed Development are weighed up. Although, inevitably, there are adverse impacts associated with the scale and type of infrastructure that forms the Proposed Development, the Applicant considers that the planning balance is firmly in favour of the Proposed Development and the benefits outweigh the adverse impacts.

2.5 Other policies and legislation

2.5.1 In deciding applications for development consent, the Secretary of State (SoS) is required to have regard to any other matters which he or she thinks are both important and relevant to the decision. Paragraph 4.1.5 of NPS EN-1 (DECC, 2011a) clarifies that Development Plan Documents or other documents in Local Development Frameworks may be both important and relevant considerations to the SoS's decision making. Weight may also be given to emerging planning policy according to its stage of preparation, the level of objections and the degree of consistency with the relevant NPS. However, as confirmed by NPS EN-1 (paragraph 4.1.5, (DECC, 2011a)), any conflict between the NPSs and local policy is resolved by the principle that policy of the NPSs 'prevails'.

2.5.2 A summary of local policy relevant to the Proposed Development is provided in Section 3.4 and with further detail of relevant policies is contained in Appendix B of the **Planning Statement** **[APP-036]**. The planning assessment presented in Section 4 of the **Planning Statement** **[APP-036]** considers the extent to which the Proposed Development is in accordance with these other relevant local policies.

2.5.3 The onshore area of the Proposed Development falls within the jurisdiction of

- Arun District Council;
- Horsham District Council;
- Mid-Sussex District Council;
- South Downs National Park Authority; and
- West Sussex County Council.

2.5.4 Therefore, the Proposed Development should be considered against the key policy documents adopted by these authorities. This includes the Horsham District Council Local Plan and West Sussex Plan as noted by the Written Representation.

2.5.5 The Applicant has embedded the principles of the Horlock Rules into the design evolution process including the substation site selection as described in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**.

2.6 Collision risk

2.6.1 Impacts on migratory birds and bats are assessed following relevant legislation and best practice in C**hapter 12: Offshore and intertidal ornithology, Volume 2** of the ES **[APP-053]** and **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**. The design of the Proposed Development has sought to avoid, reduce and minimise any residual impacts through providing embedded environmental measures, these include:

C-89 – There will be a minimum blade tip clearance of at least 22m above MHWS. As bird flight heights tend to be at lower altitudes, collision risk is reduced if the blade tip clearance is larger. The blade tip clearance for the Proposed Development has been increased to 22m to minimise this risk whilst considering other factors (i.e. SLVIA concerns). This parameter is secured in Requirement 2 and Schedule 11 Deemed Marine Licence under the 2009 Act – Generation Assets of the Draft Development Consent Order [PEPD-009].

2.6.2 The **Outline Landscape and Ecology Management Plan** **[APP-232]** include relevant embedded environmental measures and is secured via Requirement 12 of the **Draft Development Consent Order** **[PEPD-009]**.

2.6.3 The ES assessments undertaken have concluded that no significant effects on terrestrial ecology or ornithology are likely to occur as a result of the Proposed Development alone or with other relevant projects or plans taking account of environmental measures embedded into the design of the Proposed Development and secured through the requirements referred to above. Similarly, the **Report to Inform Appropriate Assessment** **[APP-038]** concludes that there will be no adverse effect to any of the protected sites assessed.

2.7 Wind Turbine Generator operational noise

2.7.1 A screening assessment of the operational noise effects of the Proposed Development as a result of the Wind Turbine Generators on residential receptors (including caravan parks) during the operation and maintenance phase have been

assessed in **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** and **Appendix 21.3: Preliminary operational noise predictions, Volume 2** of the ES **[APP-178]**. The offshore array area is located approximately 13km from the nearest shoreline. This screening assessment concluded that no residential receptors are predicted that there will be no exceedances above the lower applicable noise limit (35dB L_{A90}) as stated in ETSU-R-97 The Assessment and Rating of Noise from Wind Farms (The Working Group on Noise from Wind Turbines, 1996). Therefore, a detailed noise assessment is not required as it is expected that the Wind Turbine Generators will comply with the noise limits in accordance with ETSU-R-97.

3. Alternatives

3.1 Alternatives considered

3.1.1 Section 4.4 of NPS EN-1 (DECC, 2011) indicates the need to present the main alternatives considered as part of the Proposed Development and to demonstrate consideration of environmental, social and economic effects including, where relevant, technical and commercial feasibility (paragraph 4.2.2). Section 4.2 of the draft NPS EN-1 (DESNZ, 2023) reiterates the requirement to present the main alternatives, also noting that "*only alternatives that can meet the objectives of the proposed development need to be considered*" (paragraph 4.2.21). Therefore, the Applicant has considered the reasonable alternative options relating to the development of an offshore wind farm technology.

3.1.2 **Chapter 3: Alternatives, Volume 2** of the Environmental Statement (ES) **[APP-044]** describes the alternatives studied by the Applicant and a comparison of their environmental effects across the project as a whole. This includes the alternatives considered and consulted on prior to the Development Consent Order application. As described in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**, the Proposed Development has been developed through a multi-disciplinary design process including environment, engineering, landowner, and cost considerations. The Applicant has sought to avoid, reduce, or minimise the effects through the design process and also by identifying and securing embedded environmental measures. It is acknowledged that some residual effects remain across the site. The Applicant notes that paragraph 4.4.1 NPS EN-1 (2011), against which the Proposed Development is to be assessed, states there is no "*general requirement to consider alternatives or to establish whether the proposed project represents the best option*". This is reflected in paragraph 4.3.9 of NPS-EN1 (2023), which came into force in January 2024. Some specific policies require consideration of alternatives as set out in the National Policy Statement EN-1 (Department of Energy and Climate Change, 2011a), however these do not apply in relation to the comparison of the substation options.

3.1.3 Section 3.6 of **Chapter 3: Alternatives, Volume 2** of the Environmental Statement (ES) **[APP-044]** provides the information on the onshore substation site selection process. Section 3.6 describes the site selection process and the reasons for other sites being discounted based on the multi-disciplinary factors identified in the paragraph above. The selection of Oakendene is clearly stated as favourable for engineering, cost, and landowner considerations in paragraphs 3.6.23 to 3.6.25 of **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**. Significant weight was also given to the environmental constraints and related policy in the overall balance of the decision. This Applicant has also developed further embedded environmental measures that have been presented in the application including the design principles in the **Design and Access Statement [AS-003]**, **Outline Landscape and Ecology Management Plan [APP-232]** and **Outline Operational Drainage Plan [APP-223]** secured by Requirements 8, 12 and 18 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2) respectively. As requested by the Examining Authority at Issue

Specific Hearing 1, the Applicant has provided further information on the decision to discount the Wineham Lane North site for the onshore substation (**Deadline 1 Submission – 8.25.2 - Applicant's Post Hearing Submission – Issue Specific Hearing 1, Appendix 2 – Further information for Action Point 4 – Wineham Lane North [REP1-021]** submitted at Examination Deadline 1).

3.1.4 The **Design and Access Statement [AS-003]** outlines what the detailed design of the onshore substation at Oakendene and the extension to the existing National Grid Bolney substation shall accord with. The criteria for good design are set out in Section 4.5 of NPS EN-1 (DECC, 2011) and Section 4.7 of NPS EN-1 (DESNZ, 2023a). NPS EN-1 (DECC, 2011) and NPS EN-1 (DESNZ, 2023a) specifically acknowledge that the nature of energy infrastructure means that the extent to which development can contribute to the enhancement of the quality of the area is limited. NPS accordance trackers showing the accordance of the Proposed Development with the 2011 NPSs, extant at the time of the submission DCO Application, and the November 2023 NPSs, which came into force in 2024, will be submitted at Deadline 2.

3.1.5 Section 4.4 of the **Planning Statement [APP-036]** sets out the consideration of the key policy test regarding nationally significant infrastructure development taking place in the SDNP in line with the requirements of 5.9.10 of NPS EN-1 (DECC, 2011) and this aligns with the protections for National Parks in paragraph 5.10.32 of the revised NPS EN-1 (DESNZ, 2023). The consideration of the need for the development is outlined in paragraphs 4.4.7 – 4.4.21 of the **Planning Statement [APP-036]**. The consideration of the cost and scope of development alternatives outside the SDNP is outlined in paragraphs 4.4.22 – 4.4.67. This section draws on **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** which details the process of site selection and the consideration of alternatives. Section 3.3 of **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** outlines the alternatives considered in terms of grid connection and Section 3.4 sets out the alternatives considered in terms of landfall and onshore cable route. Together, these sections outline the cost and scope of delivering the reasonable alternatives outside of the SDNP. Therefore, this has been appropriately considered, as summarised in the **Planning Statement [APP-036]**.

3.1.6 The detrimental effects on the environment, landscape and recreational opportunities and extent to which these could be moderated is considered in paragraphs 4.4.68 – 4.4.90 of the **Planning Statement [APP-036]**. Specifically, paragraphs 4.4.69 – 4.4.75 considers the environment; paragraphs 4.4.76 – 4.4.84 consider landscape; and paragraphs 4.4.85 – 4.4.88 consider recreational activities. Section 4.4 of the **Planning Statement [APP-036]** draws on various assessments in the aspect chapters within the ES (particularly **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**, **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**; and **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]**) to outline the detrimental effects of the onshore cable route and the extent to which these could be avoided, prevented, reduced or offset. The **Commitments Register [REP1-015]** sets out the full range of embedded environmental measures to minimise or mitigate the environmental effects a number of which are relevant to the South Downs National Park which are secured by Requirements 12, 15, 16, 20, and 22 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2).

3.1.7 That there are no predicted significant effects on ecology associated with the Proposed Development following the application of the mitigation hierarchy and the embedded environmental measures.

3.1.8 The Applicant therefore considers that it has appropriately considered the key policy tests in NPS EN 1 5.9.10 (DECC, 2011) and protections for National Parks in paragraph 5.10.32 of the revised EN-1 (DESNZ, 2023) relating to development taking place within the SDNP.

3.1.9 The importance of large-scale offshore wind in contributing to the mix of energy generation required in the UK is clear in the original version of NPS EN-1 (DECC, 2011), against which the DCO Application is assessed, and NPS EN-1 (DESNZ, 2023a) which came into force in January 2024. Furthermore, NPS EN-1 (DESNZ, 2023a) defines large scale offshore wind infrastructure as a Critical National Priority (CNP). Section 3.2 within **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** outlines the site selection for the offshore array and examines the considerations that led to the identification of the location as a suitable location for offshore wind including taking into account the findings of the Strategic Environmental Assessment (SEA) of suitable areas for offshore wind conducted by the then Department of Energy and Climate Change (DECC) in 2009.

3.1.10 There is a demonstrable and urgent need for the Proposed Development (as demonstrated in Section 4.2 of the **Planning Statement** **[APP-036]** and the infrastructure subject to the DCO Application is identified as a Critical National Priority (in line with the 2023 NPS EN-1 and EN-3, which came into force in 2024). The Planning Statement paragraphs Section 5.4 summaries the benefits and adverse impacts of the Proposed Development and Section 5.5 notes the reasons for Applicant's conclusion that the benefits of the scheme outweigh the adverse impacts taking account of proposed mitigation.

4. Health and social

4.1 Mental health

4.1.1 The Interested Party states that:

- there should be parity between mental and physical health;
- a systematic approach to the assessment of the impacts on mental health should be taken and that the Mental Wellbeing Impact Assessment (MWIA) may assist; and
- the assessment should identify vulnerable populations and provide clear mitigation strategies that are adequately linked to any local services or assets.

4.1.2 In response to the first bullet point that there should be parity between mental and physical health, it should be noted that mental health impacts (or wellbeing impacts, although there are differences between the two) have been duly considered within **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**, where relevant. Examples of this include:

- impacts of noise/vibration on annoyance and/or sleep disturbance (both can have impacts on mental health);
- impacts of traffic on pedestrian amenity, fear and intimidation (mental health/wellbeing impacts rather than physical impacts); and
- impacts from changes in visual amenity on opportunities for recreation and physical activity (which can impact mental health).

4.1.3 In response to the second bullet point, While the Mental Wellbeing Impact Assessment (MWIA) toolkit (Cooke et al, 2011) has not been referenced in the Population and Human Health (PAHH) assessment, there are themes that have been inherently considered, The remaining themes are not relevant in this instance. These themes and their relevancy are summarised in **Table 4.1**.

Table *4.1* MWIA toolkit theme analysis in the context of the PAHH chapter

Theme	Comment
Physical security e.g. housing, safety at home and in the neighbourhood	Physical security is assessed in the Equalities Impact Assessment (EqIA).
Environment e.g. green space, safe play space, quality of the built environment	The impact on health and wellbeing from temporary and permanent land take and associated impacts on access to opportunities for physical activity and recreation through the use of Public Right of Way (ProW) and open space is assessed in **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**.

Theme	Comment
Meaningful activity	Not relevant – MWIA toolkit refers to the nature and quality of work that people engage with and the sense of fulfilment and opportunities for social interaction this provides.
Good quality food e.g. affordable, accessible	Not relevant – the Proposed Development has no influence on access to good quality and affordable food, with associated impacts on nutrition.
Leisure e.g. arts and creativity, sport, culture	The impact on health and wellbeing from temporary and permanent land take and associated impacts on access to opportunities for physical activity and recreation through the use of PRoW and open space is assessed in **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**.
Education e.g. lifelong learning, pre-school	Not relevant – the Proposed Development has limited influence on education beyond the measures stated in the **Outline Skills and Employment Strategy [PEPD-037]**, which is considered outside of the PAHH chapter.
Transport e.g. affordable, accessible, sustainable	Not relevant – the Proposed Development has no influence on transport in the context of it being affordable, accessible and sustainable.
Financial security e.g. income, credit, assets	We recognise that financial security is a key wider determinant of health. The socio-economic impacts of the proposed development have been considered in the PAHH assessment in this context.

4.1.4 In response to the third bullet point, the way that vulnerable populations were considered is described below.

4.1.5 Firstly, an exercise was undertaken and (presented in Section 28.8 of **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**) to establish whether it is necessary to analyse specific sub-groups of the population who may be considered particularly vulnerable. The results of this vulnerable population analysis are presented in Table 28-15 and show that the majority of sensitive receptors are located in areas which have medium or low levels of overall and health deprivation. As a result, it was not considered necessary to analyse specific sub-populations as part of the overarching assessment of population health.

4.1.6 While vulnerable populations weren't specifically considered within **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**, the EqIA (see **Appendix 28.3: Equalities Impact Assessment, Volume 4** of the ES **[APP-221]**) identifies specific vulnerable receptors and assesses potential quality effects (including health equality effects) based on any particularly sensitive protected characteristic.

4.1.7 Overall, secondary (receptor-specific targeted mitigation) has been proposed where appropriate and necessary. Such mitigation should focus on the determinants of health (such as air quality and noise) as public health is preventative in nature. As a result, and on the basis that no significant adverse health effects are reported, no health-specific mitigation is proposed.

4.1.8 Later in the Written Representation, the Interested Party also states that mental health will be affected by:

- driver delay causing stress;
- long term disruption and accompanying social isolation;
- dusty and noisy environments for people working on the industrial estate; and
- at Eastridge Manor specifically, a dementia care home where residents are more vulnerable to changes in noise.

4.1.9 Please refer to **Section 4.5** below to the Applicant's response in relation to stress from driver delay.

4.1.10 In relation to the potential for social isolation, this has been assessed as part of the PAHH assessment under "severance" on road links which trigger the need for detailed assessment. The results of this assessment conclude that in a health context any severance impact would be low at worst and not significant.

4.1.11 Regarding the potential for dusty and noisy environments for people working on the industrial estate, dust mitigation measures would be implemented to ensure that effects would not be significant. Furthermore, the predicted noise level at from construction of the Oakendene substation at noise sensitive receptors is below the daytime LOAEL and SOAEL and is not considered to be significant in noise terms.

4.1.12 Eastridge Manor is identified as a specific sensitive receptor for consideration within the EqIA. It is recognised that there is the potential for changes in the daytime and night-time noise environment at Eastridge Manor care home from trenchless crossing location TC-29 where the drilling duration is 2.3 weeks. **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** assesses the potential noise effects at Eastridge Lodge, which has the same postcode as Eastridge Manor care home and is therefore representative of noise impact at the care home.

4.1.13 Noise assessment results in **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** show that the predicted noise level during the daytime (see Table 21-29) at Eastridge Lodge (receptor ID 'HDD-29N') remain below the threshold noise level which is set to be protective of the environment and health, and the associated magnitude of change reported as "very low" on this basis.

4.1.14 During the night-time period at Eastridge Lodge (receptor ID 'HDD-29N'), the predicted noise level (see Table 21-30 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**) exceeds the threshold noise level by just 1 dB, and the associated magnitude of change reported as "low". As per the embedded environmental measures outlined in Table 21-20 (C-26), screening will be applied to block line of sight between noise sensitive receptors and the main noise emitters on the trenchless crossing compound where required to avoid significant noise effects, this is secured through the **Outline Code of Construction Practice**

[PEPD-033] requirement 22 of the **Draft Development Consent Order [PEPD-009]**. Following implementation of the insertion losses, and consideration of the pertinent commitments such as C-26 (provision of mufflers and acoustic barriers (or shrouds) where noisy activities are planned) secured via Requirement 22 of the **Draft Development Consent Order [PEPD-009]** (outlined in Table 21-20), the residual effect is direct, temporary and of Negligible / Minor adverse significance, and is considered not significant in EIA terms. Furthermore, the temporary and transient nature of drilling activities ultimately limits the potential for health and wellbeing effects which to occur would require long-term exposure to changes in the noise environment, even in more sensitive individuals such as elderly residents (including those suffering with dementia).

4.1.15 Overall, while it is acknowledged that residents of the care home are more sensitive to changes in the noise environment, for the reasons described above, the trenchless crossing activities would not result in any differential or disproportionate impact on residents.

4.2 Consideration of off-site human receptors

4.2.1 The Interested Party states that off-site human receptors that may be affected should be clearly identified and should include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land.

4.2.2 Residential receptors are the main consideration of the PAHH assessment. People using recreational areas and publicly-accessible land are also considered where relevant. People at their workplace and using transport infrastructure are not considered relevant to the PAHH assessment and have not been included.

4.2.3 Other residential receptors (e.g. care homes) have been considered as part of the EqIA in **Appendix 28.3: Equalities Impact Assessment, Volume 4** of the ES **[APP-221]**.

4.3 Pollution

Introduction

4.3.1 The Interested Party initially groups air pollution, noise and vibration, and light pollution together, stating that:

4.3.2 *"They are not just nuisance, but at the levels likely, they could have direct effects on cardiovascular and respiratory disease, mental health and indeed, mortality. Indeed, they are all, in fact, non-threshold pollutants in that an exposed population is likely to be subject to potential harm at any level"*.

4.3.3 Each aspect is dealt with separately in the sections below as not all impacts referenced are equally relevant to each health determinant (air pollution, noise and vibration, and light pollution).

4.3.4 These sections also address any other concerns regarding air pollution, noise and vibration, and light pollution that are referred to in the Cowfold Residents Rampion 2 Impact Statement.

Light pollution

4.3.5 The only potential receptor to be affected by light pollution are residential receptors. However, as reported in the PAHH assessment, the following is true during construction of the Proposed Development:

- Oakendene substation – construction works will not be visible from any part of Cowfold village due to screening from intervening landform and the layering effect of intervening vegetation, even in the winter;
- Existing National Grid Bolney substation extension – no settlements will have views of the Bolney substation extension works; and
- Onshore cable corridor – no settlements will experience significant views of the onshore cable corridor.

4.3.6 On the basis that construction works (including light pollution during the night time) would not be visible from settlements, no physical or mental health effects would occur.

Air quality

4.3.7 **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]** states in paragraph 28.9.3 that air pollution is a non-threshold pollutant, where "*there may not be a concentration threshold below which no adverse health effects occur*."

4.3.8 However, the EIA should only assess the contribution to air quality from the Proposed Development and has no influence over the existing baseline levels of air pollution.

4.3.9 Beyond the potential nuisance effects of dust, the PAHH chapter undertakes a quantitative exposure response assessment to estimate the change in health outcomes associated with changes in exposure to NO_2 and PM during construction.

4.3.10 The highest change in air pollution, occurring for the longest time, would occur during the construction of Oakendene substation. While air pollution would remain within objective thresholds set to be protective of health, a quantitative assessment was undertaken to understand the potential health impacts from exposure to changes in are pollution below this threshold. The results indicated that health impacts over the construction period at Oakendene substation across the whole population surrounding the construction works would not be measurable and therefore the effect is negligible in health terms.

Noise and vibration

Noise

4.3.11 The Interested Party refers to noise as a non-threshold pollutant. However, this is not the case and is demonstrated by the No Observed Effect Level (NOEL), Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL) referred to in the Noise Policy Statement for England.

4.3.12 This exposure response relationship between noise and health/wellbeing impacts informs noise limits which are set to protect physical and mental health and wellbeing.

4.3.13 The PAHH outlines where the relevant noise limits may be exceeded. However, any exceedances would be short term, temporary and/or transient in nature, thereby limiting the potential for health and wellbeing effects which would require long-term exposure to changes in the noise environment.

4.3.14 Later in the Written Representation, the Interested Party go on to disagree with the conclusions on health and wellbeing effects from noise from traffic, stating that "*the noise levels are already at maximum tolerable levels, in the top 1% of the country. The additional traffic, not just travelling on, but turning on and off this road, will push this beyond tolerable, having significant impacts on health*".

4.3.15 However, similar to air quality considerations above, the EIA should only assess the contribution to noise from the Proposed Development and has no influence over the existing baseline levels of noise. The maximum increase in noise from road traffic would be 2.4dB and is not considered significant in noise or health terms as would be at or below the threshold of perceptibility in a normal environment.

4.3.16 The Interested Party believe that Kent Street has not been considered. However, its omission from the list provided in the PAHH assessment is on the basis that the change in noise level, although audible, is on a road considered to be "low flow" and not significant.

Vibration

4.3.17 The Interested Party disagree with the scoping out of vibration impacts from the PAHH assessment in relation to construction of the Oakendene substation. It should be noted that the scope of the PAHH is partly led by the technical disciplines which inform any health assessment.

4.3.18 In this instance, **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** scopes out the consideration of vibration impacts in relation to construction and operation of the construction compounds, construction of the substation and cable trenching (refer to paragraph 21.9.82).

4.4 Access, leisure, and exercise

4.4.1 The health benefits of access to green spaces for recreational use and physical activity are acknowledged, hence the inclusion of potential impacts on opportunities for physical activity in the scope of the PAHH assessment.

4.4.2 The Interested Party state that “it should not be assumed that because this area is rural there are multiple opportunities for walking without access to a car to reach them”, however, in another part of their Written Representation state that “the area is heavily reliant on cars for transport”.

4.4.3 The Interested Party also stress the value of the area surrounding Cowfold and Oakendene lake for recreational walking. It should be reiterated that the permanent land take associated with Oakendene substation this infrastructure does not impact ProW or open space.

4.4.4 There would be temporary impacts to 50 PRoW (some occurring around this area). While this is the case, temporary disruption does not impact a person’s ability to use other nearby routes for recreation and physical activity. There are reasonable and accessible alternatives that exist nearby, and therefore it is unreasonable to conclude that such temporary disruption would have any material impact on access to such routes for recreation and physical activity. As such, there would be no associated health and wellbeing impacts.

4.4.5 The Interested Party state that “*The quiet lanes such as Kent Street and Moatfield Lane are also enjoyed by walkers, cyclists and horse riders. They will fear to use these routes as HGVs will put them and their animals in danger*.” However, Moatfield Lane is not proposed to be used as a construction traffic route and therefore, walkers, cyclists, and horse riders should not fear that they are in danger. Please see the Applicant’s response in Section 10.3 regarding the traffic concerns at Kent Street.

4.4.6 The Interested Party also disagree with several statements made in the PAHH assessment in the context of how visual impacts affect opportunities for physical activity. It seems that the Interested Party is disagreeing mostly with the visual impact methodology/conclusions, rather than the associated health and wellbeing effect conclusions. It should be noted that the overarching message from a health and wellbeing perspective is that even if there are some visual impacts from some PRoW which on a subjective level may deter use of these recreational resources, the resultant impact on health and wellbeing would not be material on the basis that reasonable and accessible alternatives exist nearby.

4.5 Transport

4.5.1 The Interested Party state that the ongoing congestion and delays to movements in/out of Cowfold will:

- cause stress; and
- increase pollution and health risks.

4.5.2 The potential impact from changes in air and noise pollution on health from traffic have been assessed in **Chapter 28: Population and human health, Volume 2** of

the ES **[APP-069]**. It is included that in both cases, any change in exposure to the air and noise environment would not have any significant health effects.

4.6 Doctors' surgeries and emergency services

4.6.1 Driver delay impacts have been assessed as part of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and have not been considered in the PAHH assessment.

4.6.2 The traffic impacts on the A272 do not meet the screening criteria for detailed assessment defined in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**. On this basis, it is reasonable to assume that there would not be any significant driver delay (and associated health and wellbeing impacts of this from stress, access to doctors' surgeries and access by emergency services).

4.7 Pre-existing plans and land use

4.7.1 The Interested Party makes reference to a previous plan to expand the industrial estate and the potential economic/associated health benefits of this which would not be realised due to the Proposed Development.

4.7.2 It should be noted that alternative options have been considered with many themes feeding into the decisions made. Ultimately, the withdrawal of plans for expansion of the industrial estate does not limit other employment plans locally which would have similar benefits to the community within Cowfold.

4.7.3 Furthermore, it should be noted that construction and operation of the Proposed Development would result in direct, indirect and induced job opportunities with associated health benefits (although this is not deemed to be significant in the PAHH assessment).

4.8 Property depreciation and health consequences

4.8.1 The Interested Party state that because many of the property owners near to the Oakendene substation works are elderly, many homes will need to be put on the market before completion of the project (with potential moves into residential care) but are unlikely to sell due to the disruption.

4.8.2 However, as reported in the PAHH assessment, the predicted changes in the noise and air quality environment at nearby residential receptors would not be material. Therefore, it is not considered that there would be any material disruption from construction of the onshore substation at Oakendene that would affect the selling of homes in order to move into residential care.

4.9 Homes cut off from all access

4.9.1 Mindful of residents' concerns, the Applicant updated the **Outline Code of Construction Practice** **[PEPD-033]** at the Pre-Examination Deadline. Additional detail has been provided at Section 5.7.10 to explain how construction and access will be managed. In summary:

- access restrictions will be kept to a minimum, with a diversion provided if possible;
- contractors will work with local stakeholders and accommodate reasonable requests for access;
- the trench will be covered outside of working hours, and access will be restored in emergencies; and
- closures will be communicated to local residents in advance.

4.9.2 The Applicant is willing to discuss appropriate and reasonable mitigation measures across the property during construction. Measures within the stage specific Code of Construction Practice are secured through requirement 22 of the **Draft Development Consent Order [PEPD-009]**.

4.10 Health impacts of unemployment

4.10.1 The Interested Party suggests that there would be "*health impacts from the potential loss of employment in Cowfold from stress, poverty, and the physical consequences of these.*"

4.10.2 The suggestion that there will be unemployment resulting from construction of the Proposed Development is unsubstantiated. Furthermore, it is unclear what is being suggested as the cause of unemployment.

4.10.3 The Interested Party suggests that the working environment for people at Oakendene industrial estate will become intolerable from noise. However, as reported in the PAHH assessment, the predicted noise level at noise sensitive receptors is below the daytime LOAEL and SOAEL and is not considered to be significant in noise terms. Commercial receptors are considered in the Noise and Vibration response to the Interested Party (Section 8 of this document)

4.10.4 There are also specific concerns that noise generated from the cable route and haul road would disrupt farming or equestrian businesses and will result in a sculptor specialising in biodiversity being unable to concentrate and work.

4.10.5 Any change in noise exposure from the cable route would be transient in nature. Trenched construction activities would move at a speed of 35m per day and worst-case noise levels in exceedance of the LOAEL would only be experienced for a maximum of two days.

4.10.6 Similarly, trenchless crossing activities would be transient in nature, whereby following the implementation of mitigation measures the daytime LOAEL would not be exceeded at vast majority of receptors (with the exception of two). The night time LOAEL would be exceeded, but the temporary and transient nature of the construction activity would limit the potential for health and wellbeing effects which would require long-term exposure to changes in the noise environment.

4.10.7 On the above basis, no material disruption to farming or equestrian businesses or the biodiversity sculptor are anticipated.

4.11 Electric and magnetic fields

4.11.1 A case-by-case assessment of potential public exposure to Electric and Magnetic Fields (EMFs) has been undertaken for both the 275kV and 400kV cable system (see **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**, and **Appendix 28.2: Electro Magnetic Field Health Evidence Base, Volume 4** of the ES **[APP-220]**).

4.11.2 Potential exposure to electric fields is removed as the onshore cable route is proposed to be completely buried underground; as such any potential receptors would be shielded against electric fields reducing any potential for exposure.

4.11.3 The results show that in both cases, the maximum calculated magnetic field strength is well below the Department of Energy and Climate Change voluntary Code of Practice public exposure guideline limit of 360μT, which is set to protect health.

4.11.4 No assessment of the substation has been undertaken as the area which the substation would be located within would not be publicly accessible and the strength of any EMF would have substantially dropped off, consistent with what is seen for the underground cables.

5. Economic consequences of the substation at Oakendene

5.1 Alternatives and consultation

5.1.1 Please see the Applicant's responses in **Sections 2 and 13** above regarding alternatives considered and consultation undertaken, respectively.

5.2 Transport concerns

5.2.1 As part of the DCO process, a thorough assessment of the likely impact of traffic upon the strategic and local road network and highway assets during the construction phase of works has been completed (see **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**). Traffic volumes on the Oakendene Industrial Estate and A272 have been observed and presented in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** (submitted at Examination Deadline 1).

5.2.2 Access to the construction compound site via the Industrial Estate entrance from the A272 and access management measures will be designed taking into account the existing use of the road. Continued access use by Industrial Estate tenants will be facilitated. The proposed routing strategy is further detailed in the **Outline Construction Traffic Management Plan (CTMP) [REP1-010]**. The CTMP would be secured by Requirement 24 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2).

5.2.3 Environmental measures will be implemented to manage the potential effects from construction traffic. These are detailed in the **Commitments Register [REP1-015]** and are secured through the **Outline Construction Traffic Management Plan (CTMP) [REP1-010]**, **Outline Construction Workforce Travel Plan [APP-229]**, **Outline Public Rights of Way Management Plan [APP-230]** secured through requirements 24 and 20 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2).

5.2.4 The **Outline Construction Traffic Management Plan [REP1-010]**, which has been updated at the Deadline 1 submission includes:

- *Commitment C-157: The proposed heavy goods vehicle (HGV) routing during the construction period to individual accesses will be developed to avoid major settlements of Storrington, Cowfold, Steyning, Wineham, Henfield, Woodmancote and other smaller settlements where possible; and*
- *Commitment C-158: The proposed heavy goods vehicle (HGV) routing during the construction period to individual accesses will avoid the Air Quality Management Area (AQMA) in Cowfold where possible.*

5.2.5 These commitments are also reflected in Table 5-1 of the **Outline Construction Traffic Management Plan [REP1-010]** which were updated at Deadline 1 and confirms prescribed local Heavy Goods Vehicle (HGV) access routes for all

sections of the onshore cable corridor and Table 5-2 which details specific local constraints and proposed management of construction traffic routes.

5.2.6 These commitments ensure that HGV construction traffic will route along the A27 and A23 to gain access to the A272 east of Cowfold wherever possible, thereby avoiding the village centre. Therefore, only accesses A-52, A-56 and A-57 will require construction traffic to route through Cowfold Village centre. As calculated by using data included in Table 5-3 of the **Outline Construction Traffic Management Plan** **[REP1-010]**, the impact of this commitment is the removal of up to 22,000 two-way HGV trips (11,000 HGVs) from Cowfold Village centre over the construction phase.

5.2.7 The likely significant transport effects associated with the construction phase of the Proposed Development have been assessed in **Chapter 23: Transport, Volume 2** of the Environmental Statement (ES) **[APP-064]**, **Chapter 32: ES Addendum** of the ES **[REP1-006]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-008]** which were updated at the Deadline 1. At peak construction, taking account of the construction traffic routing contained within the **Outline Construction Traffic Management Plan** **[REP1-010]** which has been updated at the Examination Deadline 1 submission, the impacts listed below have been identified for Cowfold.

- At A281 south of Cowfold (Receptor 23):
  - An HGV peak week increase of 12 HGVs per day, equivalent to an increase of 7.5% and approximately one HGV per hour; and
  - A total construction traffic peak week increase of one HGV per day and 71 light goods vehicles (LGVs) per day (5-6 per hour), equivalent to a 1.1% increase in total traffic flow.
- The A281 / A272 in the centre of Cowfold (Receptor 24):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 3.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 154 LGVs (12-13 per hour), equivalent to a 0.7% increase in total traffic flow.
- The A272 Station Road west of Cowfold Village centre (Receptor 25):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 4.6% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 154 LGVs (12-13 per hour), equivalent to a 0.9% increase in total traffic flow.
- The A272 Bolney Road east of Cowfold Village centre (Receptor E):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 5.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 147 LGVs (12-13 per hour), equivalent to a 0.8% increase in total traffic flow.

5.2.8 As noted within Institute of Environmental Management and Assessment (IEMA) 1993 publication *Guidelines for the Environment Assessment of Road Traffic*

(IEMA, 1993) and 2023 publication *Environmental Assessment of Traffic and Movement* (IEMA, 2023) an increase of less than 10% is not discernible environmental effect as is within day-to-day fluctuations in traffic flow. Therefore, no significant effects are predicted to occur within Cowfold.

5.2.9 Based on the proposed location of the onshore substation and routing of the onshore cable corridor, plus the incorporation of appropriate embedded environmental measures, no significant effects have been identified in relation to transport receptors from Rampion 2 construction, operation and maintenance, and decommissioning.

5.2.10 For further information, please see the Applicant's response to Relevant Representations regarding Oakendene Industrial Estate (Table LI3, **Applicant's Response to Relevant Representations [REP1-017]**).

5.3 Socio-economic assessment

5.3.1 Local evidence from the tourism sector Office for National Statistics (ONS) employment data pre, during and post construction of Rampion 1 is presented in **Chapter 17: Socio-economics, Volume 2** of the Environmental Statement (ES) **[APP-058**]. As noted in the assessment this shows continued growth of the sector across Sussex when comparing pre construction to post construction (pre COVID-19 pandemic).

5.3.2 **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** details relevant studies and evidence from offshore wind farms in the UK which shows that there has been no evidence of overall negative impact on the tourism economy from the development of offshore wind farms in the UK and there are a number of UK offshore wind farms which are operational that are less than 25km from shore (including Westermost Rough, Humber Gateway, Lincs, Thanet, Kentish Flats Extension, Gwynt y Mor and Rampion 1). This evidence included analysis of tourism employment numbers for Rampion 1 which showed higher levels of tourism and employment across Sussex coastal seaside towns over the period in which Rampion 1 was operational compared to before Rampion 1 began construction.

5.3.3 The assessment of the impact on the volume and value of tourism detailed in Sections 17.9, 17.10, and 17.11 of **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** considered the changing public perceptions of offshore wind as evidenced by the UK Governments Public Attitudes Tracker. The assessment within explores the impact on tourism and finds that overall, when all influencing factors are considered, the effect of the Proposed Development on the volume and value of tourism across Sussex is expected to be negligible. While there may be some people with negative perceptions of offshore wind farms who may be deterred from visiting, these are likely to be small in number and could be offset by those who are more likely to visit the area due to the development of offshore wind (see paragraph 17.9.27 of **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]**. For example, those visiting the existing Rampion visitor centre or those going on boat trips to the offshore infrastructure of Rampion 2.

5.3.4 The Applicant can confirm that none of the baseline conditions data limitations noted in Section 17.5 of **Chapter 17: Socio-economics, Volume 2** of the ES

[APP-058] would have a material effect on the assessment. These data limitations increase the uncertainty when assessing and quantifying impacts, but not to the extent that they would affect the significance conclusions. For example, the gaps in literature related to tourism effects relate to a lack of ex post studies. Despite this, the literature has strengthened over time. This has improved the confidence and robustness of tourism assessment findings related to offshore wind farms.

5.3.5 The assessment on tourism did not find any major / moderate adverse effects. The reference to major / moderate adverse and significant effects is related to of the landscape and visual impact assessment (LVIA) which assesses the visual effects likely to be experienced by people as reported in **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** and **Chapter 15: Seascape landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**. These assessments identified significant visual effects would occur at a limited number of tourist destinations with the effects of the onshore elements of the Proposed Development limited to the construction phase. However, it does not follow that effects on tourism and tourism assets will also be significant.

5.4 Skills and employment strategy

5.4.1 The **outline Skills & Employment Strategy (oSES)** **[APP-256]** documents research and engagement within East Sussex, West Sussex and the City of Brighton and Hove. In the first tranche of nine consultation meetings with stakeholder organisations, The Applicant met with Brighton & Hove City Council, East Sussex County Council and West Sussex County Council, alongside other organisations operating Sussex-wide or nationwide. The research included the identification of existing initiatives across East Sussex, West Sussex and Brighton & Hove.

5.4.2 The **outline Skills & Employment Strategy (oSES)** **[APP-256]** was intentionally high-level and the Applicant was not in a position to document concrete commitments without further consultation with key skills and employment stakeholder organisations in Sussex. The first tranche of consultation took place between July and October 2023, the results of which have fed into the second iteration of the **outline Skills & Employment Strategy (oSES)** **[PEPD-037]**, submitted to the Examining Authority (ExA) in January 2024.

5.4.3 The purpose of the strategy is not to provide direct financial contributions to local authorities, but to set out some key principles and identify activities that can be developed further with the relevant key consultees (including Brighton and Hove City Council) into a Skills and Employment Strategy that will facilitate positive and meaningful commitments and activities within the area by the Applicant.

5.5 Further development at the Oakendene site

5.5.1 The interested party references earlier plans to double the size of the industrial estate and install 38ha solar panels on the site. These proposals are said to be supported locally; it is not clear if Cowfold v Rampion consider this to be an acceptable use of the site. While these proposals have not been subject to environmental assessment, their extent suggests greater impacts on Public Rights

of Way, landscape, air quality, soils, ecology, transport, historic environment and water environment than the Rampion 2 substation proposal.

5.5.2 The permanent land area of the Rampion 2 substation site is approx. 12ha (Work number 16) including boundary treatments. This is within an area allocated for solar development in the masterplan submitted to the Examination **[REP-088]**. It would still be possible for the industrial estate to be enlarged, and a 26ha solar array to be installed in the remaining area, subject to planning permission.

6. Landscape and visual impact

6.1 Introduction

6.1.1 This section provides a summary of the landscape and visual impact assessment (LVIA) which has been focused on Cowfold and its environs and the onshore elements of the Proposed Development, including Oakendene substation as the main topics of interest.

6.1.2 The LVIA is reported in **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** which is supported by **Figures 18.1 to 18.76, Volume 3** of the ES **[APP-098-103]** which includes a number of viewpoints illustrating the onshore elements of the Proposed Development.

6.1.3 The LVIA draws from the methodology and detailed assessment set out in:

- **Appendix 18.1: Landscape and visual impact assessment methodology, Volume 4** of the ES **[APP-167]**;
- **Appendix 18.2: Viewpoint Analysis, Volume 4** of the ES **[APP-168]**;
- **Appendix 18.3: Landscape Assessment, Volume 4** of the ES **[APP-169]**;
- **Appendix 18.4: Visual Assessment, Volume 4** of the ES **[APP-170]**;
- **Appendix 18.5: Residential Visual Amenity Assessment, Volume 4** of the ES **[APP-171]**; and
- **Appendix 18.6: Viewpoint directory, Volume 4** of the ES **[APP-172]**.

6.1.4 The LVIA accords with the Guidelines on Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute and Institute of Environmental Management and Assessment, (2013).

6.2 Project Design

6.2.1 The design, mitigation and appearance of the Proposed Development is closely related to the LVIA and this is governed by two key documents, namely the **Design and Access Statement** **[AS-003]** and the **Outline Landscape and Ecology Management Plan** **[APP-232]**.

Design and Access Statement

6.2.2 The **Design and Access Statement** **[AS-003]** sets out the design principles for the Oakendene substation which will mitigate landscape and visual as well as other environmental effects and where possible enhance landscape quality through use of sustainable landscape design techniques involving earthworks, SUDs, soft / hard landscaping including, but not limited to planting (trees, hedges and woodland), outline architectural strategy (building colours and materials) lighting details (emergency and intruder lighting) and perimeter fencing. The

Design and Access Statement [AS-003] has taken account of the West Sussex Landscape Land Management Guidelines.

6.2.3 The **Design and Access Statement [AS-003]** is accompanied by an Indicative Landscape Plan Oakendene substation (see Appendix D).

6.2.4 In summary the landscape design principles for the Oakendene substation are listed as follows:

- "*Continued Detailed Design Evolution:*

  the detailed landscape design will continue to work with other technical and environmental disciplines to advance the landscape design (see below) and embedded environmental measures, maintaining or advancing the current standard of design and reviewing the maximum design parameters where possible.

- *Retention and Protection of Landscape Elements:*

  existing vegetation will be protected and retained as indicated on the Indicative Landscape Plan and in accordance with the Outline CoCP Appendix B – Vegetation Retention Plans (Document Reference: 7.2).

- *Landscape Design: Indicative Landscape Plan:*

  a key design principle is the intention that the Oakendene substation will be screened by existing vegetation and proposed landscape planting from the majority of views into the site, from the surrounding landscape, and in most cases will have limited or no visibility.

  Eastern boundary along Kent Street: Existing perimeter vegetation (mature trees and understorey) will be maintained and supplemented with additional native woodland planting and understorey. Attenuation basins will be planted with wet woodland species such as willow and alder.

  Southern boundary along Cowfold Stream: Existing perimeter vegetation (mature trees and understorey) will be maintained and supplemented with planted with wet woodland species such as willow and alder. Native shrubs / scrub will be planted within the cable easement to the north of the Cowfold Stream trenchless crossing.

  Western boundary: Existing perimeter vegetation (mature trees and hedgerows) will be maintained and supplemented with additional native woodland planting, understorey, hedgerows and individual native parkland trees. Attenuation basins will be planted with wet woodland species such as willow and alder.

  Views from Oakendene Manor, to and from the lake, across associated landscape parkland will be retained.

  Views from PRoW 1786 near Taintfield Wood, towards Oakendene Manor and associated landscape parkland, will be retained and onshore substation screening maximised.

- *A272 and Site Access: outwith visibility splays and access requirements, existing roadside vegetation (trees and hedgerow) will be maintained, and*

hedgerow height managed to infill any gaps and allow it to grow to an increased height. Increased native woodland planting will be provided to the south of the existing hedgerow along the A272 to increase roadside screening.

- *The site access road will include a curve or 'S' bend, with planting to prevent a direct line of sight from the A272 into the onshore substation.*
- *Site entrance signage and gates will be designed to be attractive, 'low key' and set back to preserve the rural character of the A272 road corridor.*
- *Architectural Strategy: The colour, texture and roofline or profile of buildings will be considered to reduce their visibility from the wider landscape and to 'break up' and soften the appearance of the onshore substation when viewed from the surrounding area in its landscape setting.*
- *Lighting:*

  lighting requirements (for scheduled maintenance outages or emergencies) within the onshore substation will be directed downward and shielded to reduce glare outside the facility.

  the principles of lighting design will be informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals (2018).

  the lighting design will account for the potential effects on people (residents, road users, walkers and tourists) and biodiversity by taking measures to minimise lighting use, minimise light spill, use most appropriate wave lengths of light and locate lighting in the most appropriate locations.
- *Stage specific LEMP: The stage specific LEMP will include:*

  Detailed Landscape Plan;

  planting specification and plant schedule (detailing number of plants / density / size and species);

  landscape programme, according to relevant planting seasons, maximising opportunities for advance planting prior to construction to allow trees to mature during the construction works and in advance of completion of the onshore substation; and

  landscape management, including a maintenance and monitoring plan to cover Years 1-10 to ensure the establishment of the landscape proposals."

6.2.5 The Applicant will continue to engage with West Sussex County Council and Horsham District Council to review and develop these principles to secure their delivery. The Applicant currently expects to submit an update of the **Design and Access Statement** **[AS-003]** at Deadline 3.

Outline Landscape and Ecology Management Plan

6.2.6 The **Outline Landscape and Ecology Management Plan (LEMP)** **[APP-232]** has been prepared to facilitate delivery of the landscape design principles listed in the **Design and Access Statement (DAS)** **[AS-003]**, including areas of landscaping and habitat creation and reinstatement along the route of the onshore cable

corridor, including the wider onshore elements of the Proposed Development such as access and construction compounds and the management of these measures.

6.2.7 Detailed landscape specification / method statements, detailed landscape plans, planting schedules and programmes for advance planting, maintenance and monitoring will be provided in the stage specific Landscape and Ecology Management Plans that would be delivered as part of the detailed design process to the relevant authority for agreement. The delivery of these documents is secured through Requirements 12 and 13 of the **Draft Development Consent Order** **[PEPD-009]** which has been updated at Deadline 2.

6.2.8 Notably species selection will be confirmed as part of the stage specific LEMP and will be restricted to the use of native species (Table 2-1 of the **Outline Landscape and Ecology Management Plan** **[APP-232]**), chosen to meet to design principles and in particular support the landscape design principles for amenity, screening and enhanced landscape character.

6.2.9 Landscape planting will grow and become established over a 5 Year period with maintenance continued until Year 10 (after completion of the construction period) with the nature, level and significance of these effects progressively reducing over this period.

6.3 Study Area and Zone of Theoretical Visibility

6.3.1 The LVIA Study Area for Oakendene substation is illustrated in **Figures 18.2a-c, Volume 3** of the ES **[APP-098]**. The geographical extent of the Study Area is 2km from the proposed DCO Order Limits and has been influenced by the Zone of Theoretical Visibility (ZTV) pattern shown on these figures which has not been cropped to the Study Area but extended into the wider area. The Study Area is not intended to encapsulate all areas from which the Proposed Development would be visible, rather it is intended to capture those areas of significant effects.

6.3.2 The LVIA Study Area for the onshore cable construction works follows a similar approach and is illustrated in **Figures 18.4a-c, Volume 3** of the ES **[APP-098]**.

6.3.3 The computer generated ZTV has been calculated to show the maximum theoretical visibility of the development (for example the Oakendene substation) based on a 3D model (accounting for drainage / SuDs and earthworks to provide a level site or baselevel) and maximum height of the development and a 2m LIDAR data digital surface model which takes account of the topography and existing built form and vegetation. This model is also used to generate wirelines and photomontages of the onshore elements of the Proposed Development from viewpoint locations. It has been used to assist the LVIA which also takes account of reduced leaf vegetation during the winter periods.

6.3.4 The ZTV produced for the LVIA is a starting point for the onshore assessment and provides an indication of the theoretical extent of visibility of the onshore elements of the Proposed Development. It does not account for intervening distance or map the magnitude or significance of an effect. That part of the assessment is undertaken in the field (visiting viewpoints, receptor locations and travelling along routes) and reported and illustrated in the ES.

6.3.5 For the avoidance of doubt areas which are not overlapped by the ZTV coloured areas would have no visibility of the propose Oakendene substation.

Viewpoint Analysis

6.3.6 The viewpoint analysis is provided in **Appendix 18.2: Viewpoint Analysis, Volume 4** of the ES **[APP-168]** with a summary in Tables 1.1-3. It should be noted that this part of the LVIA is referred to as 'analysis' and not assessment. Each of these viewpoints have been analysed and assessed to determine the likely geographical extent of effects regardless of whether they are located within the 2km Study Area. Consequently, the geographical extent of the 2km Study Area is not a 'limit' on the assessment of the geographical extent of effects.

6.3.7 The viewpoints and visualisations illustrate the range of likely effects both near and far to the onshore elements of the Proposed Development and help to define the focus of the LVIA and the likely levels of effect. Viewpoints are referred to where relevant, but the assessment of each receptor draws on desk and site-based study, specific to its location / route. It would not be practical or proportionate to provide a viewpoint for each receptor or route, but where appropriate, reference to a viewpoint is provided to help illustrate the assessment.

6.3.8 The Applicant will continue to engage with West Sussex County Council and Horsham District Council on viewpoint locations and through this process a number of viewpoints have been requested. A number of other viewpoints (shown on **Figures 18.2a-c, Volume 3** of the ES **[APP-098]**) have also been omitted from the LVIA due to lack of visibility as the project has developed.

6.3.9 In respect of the Oakendene substation the following viewpoints are noted:

- **Viewpoint SA1: Kent Street** – **Figures 18.10a-d, Volume 3** of the ES **[APP-098]** demonstrates the views through a gap in vegetation along Kent Street during the winter months; and
- **Viewpoint SA2: A272** – **Figures 18.11a-e, Volume 3** of the ES **[APP-099]**.

6.3.10 A viewpoint was considered at the new access point, but safety concerns precluded this location and Viewpoint SA2 was provided as an alternative. Significant effects from along the A272 are reported in the LVIA and the design principles in the **Design and Access Statement** **[AS-003]** and **Outline Landscape and Ecology Management Plan** **[APP-232]** include mitigation and are secured through Requirements 8 and 12 of the **Draft Development Consent Order** **[PEPD-009]**. The outline layout design shows a curved approach road to the substation, so that direct views can be screened by landscaping.

6.3.11 It has been agreed with WSCC to examine a possible alternative viewpoint on land at Oakendene Manor on the southern side of the fence, at the access point to avoid safety concerns associated with taking photos on the A272. The provision of an additional viewpoint at this location may be useful for future detailed design although it would not alter the conclusions in the LVIA that significant effects on views from the A272 would occur at this point.

- **Viewpoint SA3: PRoW 1786 Taintfield Wood** – **Figures 18.12a-j, Volume 3** of the ES **[APP-099]**. The viewpoint is representative of the views from the footpath between Kent Street and Oakendene Industrial Estate and captured

the view from the edge of Taintfield Wood towards Oakendene Manor. Although alternative viewpoints could have been provided from the route of the onshore cable corridor or closer to the onshore substation, this viewpoint is between the two and views across to Oakendene Manor which is revealed on exiting the wood. Although a further viewpoint could have been provided, it is not considered by the Applicant to be proportionate, and it would not alter the conclusions in the LVIA that significant effects on views from the footpath would occur and affect much of this route. The **Outline Landscape and Ecology Management Plan [APP-232]** includes partial mitigation and is secured through Requirement 12 of the **Draft Development Consent Order [PEPD-009]**;

- **Viewpoint SA5: Dragons Lane to Cratemans –** this viewpoint was omitted and that decision will be re-reviewed in light of comments from the Cowfold Residents' Impact Statement in respect of the onshore cable corridor;
- **Viewpoint SA7: PRoW 1788 southwest of Site, west of Taintfield Wood** – **Figures 18.13a-h, Volume 3** of the ES **[APP-099]**. The viewpoint illustrates significant effects from receptors along this route and is representative of significant effects from the A272 and the residential properties, which are included in the LVIA; and
- **Oakendene Manor** – it has been agreed to pursue a further viewpoint to the northwest of the onshore substation in the vicinity of Oakendene Manor. The provision of an additional viewpoint at this location may be useful for future detailed design although it would not alter the conclusions in the LVIA of significant effects on views from this location.

6.3.12 The Applicant will continue to engage with West Sussex County Council and Horsham District Council on viewpoints.

6.4 Landscape Effects

6.4.1 The landscape assessment draws from the areas of landscape character described in a number of documents including baseline data (Table 18-16, **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**). Some of the key documents are listed as follows:

- Landscape character assessment of West Sussex, (West Sussex County Council (WSCC), 2003);
- Sussex Historic Landscape Classification (WSCC, East Sussex County Council, Brighton & Hove Unitary Authority and English Heritage, 2010);
- Local distinctiveness study of West Sussex, (WSCC, 2013); and
- Horsham District Landscape Character Assessment (Horsham District Council, 2003).

6.4.2 Collectively they describe the landscape character, key characteristics, perceptual qualities and landscape features / elements that are appreciated and acknowledged in the Cowfold Residents' Impact Statement.

6.4.3 The Oakendene substation site is located within the J3: Cowfold and Shermanbury Farmlands landscape character area and a list of the key characteristics is provided in Section 18.9 of **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**.

6.4.4 Paragraphs 18.9.6-7 of **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** provides a summary of the landscape effects of the Oakendene substation as follows:

"*In summary, significant landscape effects resulting from the substation at Oakendene will be limited to the host J3: Cowfold and Shermanbury Farmlands LCA, extending over the site of the substation and within 100-250m of the surrounding area to the south and southwest in particular. These limited effects are due to the location of the substation site within a well-established network of mature trees and woodland and the perimeter planting involving native trees as illustrated in the Appendix D Oakendene onshore substation Indicative Landscape Plan within the DAS (Document Reference: 5.8) and further explained in the Outline LEMP (Document Reference: 7.10).*

There will be no other significant effects on landscape character and no effect on the High Weld AONB which re also included in the landscape assessment."

6.4.5 The landscape assessment includes an assessment of the landscape character, its key characteristics and the constituent elements or features (which includes mature trees). The assessment makes specific reference to the loss of individual trees and hedgerow trees within the footprint of the onshore substation and assesses a High magnitude of change and a Major and significant effect on the landscape character and landscape elements (trees / field trees / hedgerows with trees hedges etc.).

6.4.6 These elements are also assessed within **Appendix 22.16: Arboricultural Impact Assessment, Volume 4** of the ES **[APP-194]**.

6.4.7 The loss of these features has been recognised as part of the Biodiversity Net Gain (BNG) as set out in **Appendix 22.15: Biodiversity Net Gain information, Volume 4** of the ES **[APP-193]**. The **Draft Development Consent Order [PEPD-009]** has requirements 12, 13,14 and 22 securing mitigation, compensation and BNG.

High Weald Area of Outstanding Natural Beauty

6.4.8 **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** considers the potential landscape and visual effects of the Oakendene substation including long distance views from the High Weald AONB.

6.4.9 Although the High Weald AONB is located approximately 550m to the north of the proposed DCO Order Limits along the A272, site survey has revealed that there will be limited intervisibility between the onshore substation and the AONB. No significant effects on landscape character have been identified within the High Weald AONB or along its boundary (see **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**).

6.4.10 No significant visual effects have been identified in respect of views of visual receptors within the High Weald AONB and there are no significant effects on

views that view north towards landmarks within the High Weald AONB that could affect its setting.

6.4.11 The following viewpoints, selected though consultation (in **Chapter 18: Landscape and visual impact - figures, Volume 3** of the ES **[APP-099]** are located within the High Weald AONB:

- **Viewpoint SA6**: PRoW 1750 north of Aglands; and
- **Viewpoint M**: High Weald Landscape Trail (near Bolney).

6.4.12 Neither of these will view the onshore substation due to the intervening distance and vegetation screening and both viewpoints have therefore been omitted from the LVIA.

6.4.13 Consequently, there will be no effect on the special qualities, setting and integrity of the High Weald AONB (see **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**). The High Weald AONB Partnership agreed that the effects would be minimal (email dated 12 July 2021).

6.5 Visual Effects

6.5.1 The visual assessment reports on the visual effects experienced by people in the landscape and includes local residents in settlement, road users and people on recreational routes or at tourist / visitor attractions where the focus of the experience is an enjoyment or appreciation of the landscape.

6.5.2 This visual assessment includes allowance for the visual effects of lights related to the construction of the onshore elements of the Proposed Development. During the operational and maintenance phases downward lighting will only be required for maintenance outages or emergencies occurring at night, there and there will be no other lighting associated with the onshore Oakendene substation.

6.5.3 In summary, significant visual effects will be experienced on the views from the A272, Kent Street and PRoW near Taintfield Wood as a result of Oakendene substation during construction. During operation and maintenance phase. The visual effects from the A272 and Kent Street will reduce to non-significant levels as mitigation planting shown in the Indicative Landscape Plan (**Outline Landscape and Ecology Management Plan** [**APP-232**]) becomes established.

6.5.4 **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** is being updated for submission at Deadline 4 and will provide further clarification and assessment in relation to Viewpoints, and associated receptors including PRoW, and transport routes.

Views from Settlements: Cowfold

6.5.5 The settlement of Cowfold is almost entirely outwith the ZTV shown in **Figures 18.2a-c, Volume 3** of the ES **[APP-098]**, taking account of buildings and vegetation screening there would be no view of the onshore elements of the Proposed Development including the Oakendene substation during construction or the operation and maintenance periods.

Residential Visual Amenity Assessment

6.5.6 A Residential Visual Amenity Assessment (RVAA) has been undertaken to accord with the advice in the Landscape Institute's Residential Visual Amenity Assessment Technical Note 2/19, 15 March 2019. The RVAA is reported in **Appendix 18.5: Residential Visual Amenity Assessment, Volume 4** of the ES **[APP-171]** including Annex A.

6.5.7 The RVAA addresses the private views from residential properties and the Landscape Institute's Residential Visual Amenity Assessment Technical Guidance Note 2/19 ('the LI guidance' CD009.003) advises that the planning system is designed to act in the public interest when making planning decisions. It is not uncommon for significant adverse effects on views and visual amenity to be experienced by people at their place of residence as a result of introducing a new development into the landscape. In itself this does not necessarily cause particular planning concern. However, there are situations where the effect on the outlook / visual amenity of a residential property is so great that it is not generally considered to be in the public interest to permit such conditions to occur where they did not exist before.

6.5.8 In summary, there are essentially two stages to a RVAA concerning the identification of significant effects and the consideration of RVAA. The RVAA (Stage 1) identifies those properties which are likely to be significantly affected and subjects these to RVAA (Stage 2) which is summarised in Table 1-2 and detailed for each property in Annex A of **Appendix 18.5: Residential Visual Amenity Assessment, Volume 4** of the ES **[APP-171]**.

6.5.9 In assessing RVA the assessment draws from all of the information provided in the visual assessment and the LI guidance advises: "*In this final step, and only for those properties where the largest magnitude of effect has been identified, a further judgement is required. This concluding judgement should advise the decision maker whether the predicted effects on visual amenity and views at the property are such that it has reached the Residential Visual Amenity Threshold, therefore potentially becoming a matter of Residential Amenity*." The LI guidance provides a number of examples, most of which relate to onshore wind farm development, the following example relates to linear development:

"*The Preston New Road (Appeal A) development appeal the Secretary of State agreed with the Inspector stating in the decision letter: "For the reasons given at IR12.117-12.120, the Secretary of State agrees with the Inspector that the proposal would not affect the outlook of any residential property to such an extent that it would be so unpleasant, overwhelming and oppressive that it would become an unattractive place to live (IR12.118)*."

6.5.10 The RVAA includes properties located closest to the onshore elements of the Proposed Development and the Oakendene substation, noting properties to the north of the A272 and residential properties along Kent Street. The Applicant will undertake a review of properties at Kings and Ridgelands on Kent Street, Allfreys and the Oakendene and their possible inclusion in the RVAA.

6.5.11 Significant visual effects are identified in respect of the residential properties at Oakendene Manor and Coopers Cottages.

6.5.12 The RVAA has concluded that none of the residential properties, included in the assessment will be affected by the Proposed Development in terms of their residential visual amenity during construction, operation and maintenance or decommissioning phases. This is due largely to combinations of intervening distance, partial screening, and use / orientation of the property, such that the living standards would not be affected, and the residential property would not be adversely affected to the extent that it would become an unattractive place to live when judged objectively and in the public interest, on an individual basis or cumulatively. In addition, it should be noted that the effects of the construction phase will be temporary.

6.5.13 The provision of an additional viewpoint and site visit to Oakendene Manor will further inform future detailed design and confirm the conclusions of the LVIA which reports significant effects on views from this location. **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** is being updated for submission at Deadline 4 and the Applicant will review the RVAA accordingly.

Views from Transport Routes

6.5.14 Paragraphs 18.9.79 of **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** provides a summary of the visual effects on views from transport routes as follows:

"In summary, significant visual effects will be limited to short, intermittent sections of transport routes affecting up to 300m of the A272 as it passes the northern boundary of the onshore substation, and up to 1km of Kent Street as it passes the eastern boundary of the onshore Oakendene substation, subject to the screening effects of vegetation, during the winter months. Effects on the remaining transport routes would be not significant."

6.5.15 The visual effect on the views from Kent Street will be intermittent along the approximately 1km of the route, viewing through gaps in the trees and hedgerows affecting short sections of the route within the overall 1km and not a continuous, clear or open view.

A272

6.5.16 Two sections of hedgerow on the southern side of the A272 (H520) are shown as retained on Figure 7.2.1k of the Vegetation Retention Plan within the **Outline Code of Construction Practice** **[PEPD-033]**. A further section of hedgerow on the southern side of the A272 (H520b) is shown to allow for the access to the Oakendene substation.

6.5.17 Hedgerow management along the A272 is included in the **Design and Access Statement** **[AS-003]** secured via Requirement 8 within the **Draft Development Consent Order** **[PEPD-009]** and **Outline Landscape and Ecology Management Plan** **[APP-232]** to increase screening, subject to requirements for visibility splays. The Applicant will endeavour to ensure that further planting immediately south of the hedgerows along the A272 is included as advance planting to further increase the screening potential of views along the A272. This aligns with the existing design principle to maximising opportunities for advanced planting.

Kent Street

6.5.18 There are four access point along Kent Street:

- A59 – Operational only;
- A60 – Operational only;
- A61 – Construction and operation; and
- A64 – Construction and operation

6.5.19 The Applicant will provide clarification of the requirements for access and the need for bellmouth / visibility splay requirements for each of these accesses and review the LVIA and **Design and Access Statement [AS-003]** accordingly.

6.5.20 Specific reference to increased construction access on Kent Street and at the construction accesses A61 and A64 will be provided. This would not however alter the conclusions of the LVIA which records a high magnitude of change and the highest level of effect for this receptor during construction, ranging from Major / Moderate to Moderate (Significant).

Views from Recreational Routes and Visitor / Tourist Attractions: A272

6.5.21 In summary, significant effects will be limited to sections of recreational routes experienced by people on PRoW 1786 / 1787 / 1788 during construction and PRoW 1786 / 1787 during the operation and maintenance phase as a result of Oakendene substation.

6.5.22 **Figure 18.9c [APP-098]** illustrates PRoW 1786 and the LVIA describes this in Table 18-34 **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** as "*routed between east of Taintfield Wood and the A272 via Oakendene Industrial Estate*". As such the assessment includes part of PRoW 1787 between Kent Street and Taintfield Wood. Allowing for this, it is agreed that PRoW 1786 and part of PRoW 1787 will be significantly affected during construction of the onshore cable corridor and the Oakendene substation.

6.5.23 **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** is being updated for submission at Deadline 4.

6.6 Cumulative effects

6.6.1 The assessment in the Environmental Statement (ES) **Volume 2** of the ES **[APP-047** to **APP-070]** considers the full lifecycle of the Proposed Development (construction, operation and maintenance, and decommissioning).

6.6.2 The assessment in the ES also examines the cumulative effects of Rampion 2 in combination with other developments that have been substantially progressed in the planning system prior to the submission of the DCO Application. A cumulative effects assessment (CEA) examines the combined impacts of Rampion 2 in combination with other developments on the same single receptor or resource and the contribution of Rampion 2 to those impacts. The approach to the assessment of cumulative effects is set out in **Chapter 5: Approach to the EIA, Volume 2** of the of the ES **[APP-046]** and **Appendix 5.4: Cumulative effects assessment**

detailed onshore search and screening criteria, Volume 4 of the ES **[APP-128]**). Each ES chapter contains a shortlist specific to that assessment, using a ZOI relevant to the receptors and pathways considered. With the exception of onshore landscape and visual resource (see Section 18.14 **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**) there are no additional significant effects, or effects elevated to a significant level, that would not be apparent in the assessment of the Proposed Development alone.

6.6.3 Table 18-39 of **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** states that during construction the Proposed Development in combination with the energy related applications in the near proximity to the existing National Grid Bolney Substation will intensify effects on landscape character in the Eastern Low Weald. Cumulative effects (additional and combined) resulting from the onshore elements of the Proposed Development would range from Major to Moderate and would result in a significant cumulative effect. However, during the operational stage, cumulative effects resulting from the onshore elements of the Proposed Development would be Minor to Negligible and therefore would not result in a significant cumulative effect. This is because they are positioned 'centrally and within' landscape that is already affected by the National Grid Bolney substation with other development located closer to visual receptors viewing from the perimeter of this area.

6.6.4 The interested party has noted proposals for a battery storage facility south of the substation, which is claimed to connect to the Rampion 2 cable. This is not the case.

Conclusion

6.6.5 To conclude, during construction the onshore elements of the Proposed Development (Oakendene substation and cable corridor) will result in significant effects on the local landscape character of the J3: Cowfold and Shermanbury Farmlands and the views from residential properties at Oakendene Manor and Coopers Cottages and from part of the A272, Kent Street and PRoW 1786 / 1787 / 1788.

6.6.6 During the operation and maintenance phase the onshore elements of the Proposed Development (Oakendene substation) will result in significant effects on the local landscape character of the J3: Cowfold and Shermanbury Farmlands and the views from residential properties at Oakendene Manor and part of the PRoW 1786 / 1787. Significant visual effects from the A272, Kent Street and PRoW 1788 will be mitigated as a result of the Indicative Landscape Plan Oakendene substation.

7. Air quality and pollution

7.1 Introduction

7.1.1 This section provides a technical response to the matters raised on the air quality topic in Section 7: Air Quality and Pollution of the Cowfold Residents impact statement **[REP1-089]**. Responses that are concerned with the health impacts from air quality are addressed in **Section 4** above.

7.2 Summary of Matters

7.2.1 A review of the Section 7: Air Quality and Pollution of the Cowfold Residents impact statement **[REP1-089]** has identified several themes which are summarised as follows:

- Technical detail of the air quality assessment work;
- The nature of air pollution limits;
- Impact on the Cowfold AQMA;
- Impact on the A272 outside the Cowfold AQMA;
- The use of Annual Average Daily Traffic (AADT);
- Outline CoCP and Commitment Register; and
- Impacts on Kent Street.

Technical detail of the air quality assessment work

7.2.2 In the introduction to the Cowfold Residents impact statement, it is stated that:

'Rampion did not do this, but assessed traffic merely in terms of numbers travelling along the road and the percentage change, which is indeed small, but that does not mean it is not significant. They have not, despite exhortations from residents, considered the effect of turning on or off the road or of traffic lights.'

7.2.3 This statement is incorrect. The air quality model ADMS-Roads was configured with specific sections with reduced speeds to represent queues caused by turning movements and traffic lights in Cowfold. The traffic modelling methodology is described in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** and with the specific model links shown in Figure 19.2A in **Chapter 19: Air quality - figures, Volume 4** of the ES **[APP-104]**.

The nature of air pollution limits

7.2.4 The Applicant understands and agrees that air pollution exposure is non-threshold i.e. there is no safe limit at which adverse human health impacts can be avoided for the entire population. For this reason, the Applicant has designed the Proposed Development to minimise air emissions exposure as far as possible through

measures including dust suppression, maximising separation distances to compounds and the routing of construction vehicles.

7.2.5 All impacts have been assessed against the limits and objectives prescribed in the Air Quality Standards Regulations 2010 (Table 19.2, **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**) and as such the application is compliant with the law.

Impact on the Cowfold AQMA

7.2.6 The **Outline Construction Traffic Management Plan** **[PEPD-035a]** contains details of required construction traffic routing for the Proposed Development. Where possible HGV traffic has been routed via the A23 and from the east along the A272 avoiding Cowfold. Heavy goods vehicle (HGV) traffic has been minimised as much as possible as detailed in paragraph 1.2.5, Commitment C-157 and C-158 **Commitment Register** **[REP1-015]** which has been updated at Deadline 1. The Applicant has assessed effects on the Cowfold AQMA as negligible in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**, and in a further sensitivity test in the **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**.

Impact on the A272 outside the Cowfold AQMA

The Oakendene Stretch

7.2.7 The Cowfold Residents impact statement states that:

'The effect on air quality along the A272 at this point has not been considered by the PEIR, or assessed as 'not significant.'

7.2.8 The effect on air quality has been considered following the same methodology as all other sections of the strategic transport model network in that the change in traffic flow associated with Rampion 2 was screened against the IAQM/EPUK screening criteria as shown in Section 19.8 **Chapter 19: Air quality Volume, 2** of the ES **[APP-060]**). It was determined that the change in flow was below the criteria meaning it is very unlikely that the application will cause adverse human health impact on the Oakendene Stretch of the A272. Conversely, where the change in AADT is above the criteria, road links are screened in the assessment as is the case with the Worthing AQMA.

The use of Annual Average Daily Traffic (AADT)

7.2.9 Traffic flow data from the strategic transport model are conventionally expressed as Annual Average Daily Traffic (AADT) for use in air quality models such as ADMS-Roads. When the AADT data are added as inputs to the model, the model allows the use of a diurnal profile to represent variations in flow during the day. As the Cowfold Residents impact statement notes:

'It should be noted that these figures are annual averages and that given that 14500 of the approximately 18500 vehicles travel along the A272 between 6 am and 6pm, the actual levels during daytime, i.e. exposure, hours will be much higher.'

7.2.10 Diurnal profiles were not applied to the AADT flows because the risk of exceedance of the short-term air quality objectives are unlikely as stated in paragraph 7.97 of Defra LAQM.TG(22) states:

'A study carried out on behalf of Defra and the Devolved Administrations identified that exceedances of the NO_2 1-hour mean are unlikely to occur where the annual mean is below 60µg/m^3.'

7.2.11 As all annual mean predicted NO_2 concentrations are below 60 µg/m^3 there was no requirement to apply diurnal profiles to the AADT flows.

Outline Code of Construction Practice and Commitments Register

7.2.12 The **Outline Code of Construction Practice (CoCP)** [**PEPD-033]** is underpinned by commitment C-24 of the **Commitment Register** **[REP1-015]** (provided at Deadline 1 submission). The **Outline Code of Construction Practice** **[PEPD-033]** secured in Requirement 22 of the **Draft Development Consent Order** **[PEPD-009**]. The **Outline Construction Traffic Management Plan (CTMP)** **[REP1-010**] has been updated at the Deadline 1 submission to state that all vehicles used in the construction of the onshore elements of the Proposed Development will be to a EURO standard VI class or better wherever possible. It should also be noted that during the three-year construction period there will be intermittent development traffic, as described in the traffic profile presented in **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**. The **Outline Construction Traffic Management Plan** **[REP1-010]** is secured in Requirement 24 of the **Draft Development Consent Order** **[PEPD-009]**. It should also be noted that during the three-year construction period there will be intermittent development traffic.

Impacts on Kent Street Lane

7.2.13 Traffic flows along Kent Street Lane have been considered within the and **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**. Construction traffic flows from the Project have been predicted for two access points that are proposed along Kent Street Lane. AADTs have subsequently been calculated for the two access points A-61 and A-64. The AADTs for access via the A-61 access point are 25 HGV AADT and 15 LDV AADT. The AADTs for access via the A-64 access point are 17 HGV AADT and 1 LDV AADT. The predicted changes in AADTs as a result of the Project are below the thresholds used to screen traffic flows to ascertain whether a detailed air quality assessment. The thresholds are presented in **Chapter 19: Air quality, Volume, 2** of the ES **[APP-060]**, and the Proposed Development traffic flows screen out then it can be concluded that potential impacts on air quality are not significant, and a quantitative assessment is not required.

8. Noise and vibration

8.1 Summary

8.1.1 This section concerns the technical aspects of the noise and vibration assessment in the Interested Parties Written Representation. Responses that are concerned with the health impacts from noise and vibration are addressed in **Section 5** above.

8.2 Criteria

8.2.1 The various assessments of noise and vibration have been carried out in accordance with the National Planning Policy Framework, National Policy Statements for Energy (EN-1,EN-3, and EN-5), the Noise Policy Statement for England, and have regard to the Planning Practice Guidance note “Noise”. The assessments have considered the local planning policies, the criteria identified within Section 21.8 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** are industry-standard and referenced within the Noise Planning Advice Document: Sussex (Adur District Council *et al*, 2023).

8.2.2 BS 5228 parts 1 (noise) and 2 (vibration) (BSI, 2014a and 2014b) are statutory codes of practice for construction noise and vibration under the Control of Pollution Act 1974.

8.2.3 Design Manual for Roads and Bridges (LA111) Noise and Vibration (Standards for Highways, 2020) is a National Highways document for traffic noise and vibration assessment and significance.

8.2.4 BS 4142 (BSI, 2019) is the main assessment tool in the UK for noise arising from commercial and industrial premises.

Assessment methodology

Significance

8.2.5 The Applicant considers that the criteria above that determine magnitude of effect, the sensitivity determinations, and the determination of significance resulting have all been correctly applied.

8.2.6 The Applicant stands by the significance conclusions of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**.

Vegetation Screening

8.2.7 Removal of vegetation is presented as a noise impact. Whilst vegetation can have a psychological reduced perception of noise (i.e. out-of-sight-out-of-mind), the likelihood of a hedge providing an appreciable (i.e. greater than 3dB) reduction is low. This also diminishes the Interested Party consideration that the assessment will be worse in winter due to lack of vegetation cover.

Commercial Receptors

8.2.8 Commercial Receptors in the Oakendene Industrial Estate have been assessed in the Noise and Vibration Chapter as Non-noise sensitive.

8.2.9 People in the industrial estate will be protected from harmful noise under general provisions under the Health and Safety at Work etc Act 1974, and the Control of Noise at Work Regulations 2005.

8.2.10 The controls in place for residential receptors will also benefit the commercial receptors.

8.2.11 For operational noise impacts upon commercial receptors, a noise limit off 55dB at office windows is considered by the Applicant to adequately address substation sound. Table 21-25 of the **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** applies.

8.3 Baseline Surveys

8.3.1 The Interested Party considers that Baseline monitoring is of dubious quality and omits a number of significant properties.

8.3.2 The Applicant is satisfied that the geographic scope and duration baseline surveys undertaken are in accordance with standard practice and proportionate for the assessments that they inform. The surveys are considered to adequately characterise the areas local to the proposed Oakendene substation and form the basis of a robust noise impact assessment.

8.3.3 The Applicant notes the Interested Party concerns that receptors within the area have been allocated as Category A unless measurements have determined that they are a higher category, and also notes that the Interested Party considers that higher categories should be applied. It is however, not recommended to follow such an action, as this would lead to relaxations of the construction trigger levels (i.e. higher allowable noise levels). The Applicant considers that the noise level limits selected, and the mitigation measures applied to achieve these, will offer sensitive receptors a suitable level of protection and are not seeking to increase these.

8.3.4 The Interested Party states "*In the Noise and Vibration Document, paragraph 21.8.9, Rampion say haul roads are assessed differently because of the lack of baseline data. There is no excuse; data could easily have been obtained by measuring*". This is a misinterpretation of what the Noise and Vibration Chapter states, which is that noise from haul routes are assessed as a construction noise source, rather than a road because the low flow nature and slow speeds on a non-metalled surface, which the Applicant considers is a more conservative approach.

8.3.5 The Interested Party queries descriptions of the existing baseline such as "Birdsong". These descriptions help inform the reviewer of the nature of the acoustic environment at the monitoring location, rather that forming any part of the assessments, which are all based on measured total sound containing both natural and anthropogenic noise sources. The standards do not provide a mechanism to distinguish between these differently generated sounds.

8.4 Road Traffic Noise

8.4.1 To account for updates made to the traffic data the traffic noise assessment has been updated and submitted in the Environmental Statement **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**. The discussion of traffic noise will cover the traffic noise assessment provided in **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**, rather than the assessment within **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**.

8.4.2 Kent Street and the A272, that the Interested Party reference, are considered within this addendum.

8.4.3 Receptors on Kent Street between the A272 and the site access, will receive an audible increase in traffic noise due to in an increase of 60 vehicle movements per day (using the "peak week" traffic assessment) and an increase in the proportion of traffic that are Heavy Distribution Vehicles (HDV). However, this is not a significant increase, as the road is "low-flow" with respect to the assessment guidance both without, and with, the proposed development.

8.4.4 Noise from the A272 is predicted to increase by up to 0.2 dB due to project traffic. This is a very small change, and not significant.

Noise Important Areas

8.4.5 The Applicant notes the Interested Party reference to Noise Important Areas (NIAs) from the Defra noise maps.

8.4.6 The NIAs were assessed; however, this assessment was not reported, that assessment will be added to the next revision of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**. The assessment was that the NIAs were unlikely to be impacted significantly by the project on the basis that these were located on A-roads with flows above 20,000 a day, and that it would not be possible for the worst-case flows to have a significant effect on the noise from these heavily trafficked roads.

8.4.7 The traffic noise assessment has been updated and submitted in **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**. The Applicant considers that the predicted worst-case increases of 0.2dB on the A272 confirm the initial qualitative assessment.

8.4.8 The IP references NIAs for noise impacts that are related to construction and operation. The NIA process is National Highways' mechanism for prioritising noise abatement works on major roads, the Applicant considers that construction and operation noise that does not involve vehicle movements on the public highway are not related to this NIA process and therefore are not considered further in the assessment undertaken.

8.5 Construction Noise

Working Hours

8.5.1 Working hours are stated in Section 4 of **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]** and are outlined in Section 4.4 of the **Outline Code of Construction Practice (CoCP)** **[PEPD-033]**. The Interested Party considers that "*currently proposed core hours are unacceptably long*". BS5228 as stated in 9.2.2 above is the statutory code of practice for construction noise. The proposed working hours set out in the **Outline Code of Construction Practice** **[PEPD-033]** and secured through Requirement 22(5)(o) of the **Draft Development Consent Order** **[PEPD-009]** have considered the guidance of BS5228-1, which does not specifically define "daytime", "evening", "night-time" or "weekend" periods. Furthermore, the standard does not identify any time period where construction activity would be precluded from a noise perspective. The code of practice does, however, provide an example, in Annex E, of how to consider these periods. Annex E does not impose any requirements but makes recommendations on the assessment of noise from construction activity. The method that has been used here and on many other construction projects is the "ABC method" described within the standard.

8.5.2 The construction noise assessment periods presented as an example in the ABC method are:

- Daytime: 07:00 – 19:00 weekdays and 07:00 – 13:00 Saturdays;
- Evening and weekend: 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays, 07:00 – 23:00 Sundays; and
- Night-time: 23:00 – 07:00 every day.
- Bank holiday hours are not specifically mentioned in the example time periods, but for the purposes of the proposed Project, they are considered to be equivalent to Sunday hours.

8.5.3 Thresholds for significance are selected, whereby weekday (07:00 – 19:00), and Saturday morning (07:00 – 13:00) hours benefit from the highest threshold. That is to say that more noise can be tolerated in these hours. The next highest threshold is for evenings (weekday 19:00 – 23:00) and weekend hours (13:00 – 23:00 Saturdays, 07:00 – 23:00 Sundays).

8.5.4 The most stringent thresholds are applied to the night time period (all days 23:00 – 07:00). There are further modifications to the thresholds of significance for each period that depend on the measured ambient noise baseline, but as the Project is predominantly in rural areas, the decision was taken to apply the lowest category of existing ambient sound without undertaking an extensive baseline investigation (except for locations that a higher category had been measured). This means that the lowest noise thresholds apply in each period for most receptors and is considered to be the most conservative approach to construction noise assessment. Therefore, the noise assessment has generally applied the most stringent criteria for all main works and mitigation applied to meet these. The assessment applied reasonable worst case plant assumptions and assumed that

noise impacts from activities that the programme could allow to be operating at the same time are additive.

8.5.5 Following receipt of Relevant Representations and information shared at Issue Specific Hearing 1, C-22 within the **Commitments Register** **[APP-254]** has been updated at the Deadline 1 submission to the following:

'Core working hours for construction of the onshore components will be 08:00 to 18:00 Monday to Friday, and 08:00 to 13:00 on Saturdays, apart from specific circumstances that are set out in the Outline COCP, where extended and continuous periods of construction are required.

Prior to and following the core working hours Monday to Friday, a 'shoulder hour' for mobilisation and shut down will be applied (07:00 to 08:00 and 18:00 to 19:00). The activities permitted during the shoulder hours include staff arrivals and departures, briefings and toolbox talks, deliveries to site and unloading, and activities including site and safety inspections and plant maintenance. Such activities shall not include use of heavy plant or activity resulting in impacts, ground breaking or earthworks.'

8.5.6 This has been updated in the **Outline Construction Traffic Management Plan** **[REP1-010]** for the Deadline 1 submission and will be updated in the **Outline Code of Construction Practice** **[PEPD-033]** for the next submission of this document.

Trenchless Crossings

8.5.7 The IP considers that noise impacts from construction compounds at night-time are underplayed, and that the assessment of Trenchless Crossings and temporary compounds significantly underestimates the impacts of noise on local residents.

8.5.8 The Applicant considers that the assessment of such noise has been carried out in accordance with the code of practice for construction noise and mitigation is applied to address significant effects. The data underpinning the predictions are considered by the Applicant to be a worst case, as they include all possible noise sources working at the same time, which will not be the case in practice.

Trenching

8.5.9 The IP shares West Sussex County Council's (WSCC's) Principle Areas of Disagreement (PAD'S) response that there is a lack of consideration of impact due to the trenching. Section 21.9.47 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** describes the reason for how this has been approached i.e. the works moving at a rate of 35m per day will be unlikely to exceed any noise limits for more than a day and certainly for not greater than 2 days. Where such levels are experienced, this temporary duration is not significant.

8.5.10 The IP shares WSCC PAD response that no noise contours for the cable route have been provided and the full extent of receptors are not identified in the accompanying figures. The reason for this is that preparation of such contours were omitted as the assessment (presented in 21.9.47 discussed above) is a qualitative assessment which was considered by the Applicant to encompass all the impacts with regards to the trenching work. Due to the speed that the works

move along the line of route, noise contours would not have adequately reflected the very short-term impacts. As such, they were not considered by the Applicant to provide any additional context.

8.6 Operational Noise

8.6.1 The IP asserts that operational phase will be significantly noisy. There is no evidence to support this. The design for Rampion 2 infrastructure should not be assumed to be the same as for Rampion 1. An independent noise assessment has been carried out on the outline design; this will be further refined through detailed design.

8.6.2 The operational substation has been assessed in accordance with the standard procedure and the outcomes and decisions behind these are discussed in **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** Section 21.10.

8.6.3 The indicative noise break-in assessment (requested by Mid Sussex District Council) that was undertaken is not location specific. The outcome of the assessment showed that at the maximum rating levels applied for the substation are below those considered by the World Health Organisation night noise guidelines to be the onset for sleep disturbance, even if a low frequency tone is present and windows are open for ventilation. i.e. the assessment is as relevant to Horsham District Council receptors as it would be if the substation was situated in Mid Sussex District Council.

8.7 Vibration

Traffic Vibration

8.7.1 The applicant considers that project traffic vibration assessment goes further than would normally be required on a similar sized project, as traffic vibration is a consequence of the quality of the road surface rather than the presence of project traffic. Generally, it is the highways authority that is responsible for maintenance of the road surface such that the assumption will usually be that HDV vibration is negligible because of text within DMRB scoping out vibration due to vehicles on roads. The **Outline Construction Traffic Management Plan** **[REP1-010]** has a mechanism to identify deterioration of the road surface by project traffic and to rectify any such deterioration.

Construction Vibration

8.7.2 The IP considers that vibration impacts of piling and vehicles on haul roads are of concern, particularly for listed buildings in the vicinity.

8.7.3 The construction vibration assessment follows the guidance from BS5228 part 2, the statutory code of practice. The levels of vibration predicted are at the threshold of perceptibility. This is significantly lower than the onset of building damage (including cosmetic damage). Vibration from vehicle use on haul routes is not likely to be an effect due to the separation distances between haul routes and receptors.

8.7.4 As such, the Applicant considers that the construction vibration assessment is adequate.

Operational Vibration

8.7.5 The IP queries the Applicants statement that "*Any residual vibration is not likely to be perceptible beyond a few metres from [the substation*]" the IP considers that "not likely" is a subjective answer and "should not be considered acceptable". The technical information with respect to the substation is sufficient to know that at the nearest residential receptors (over 200m from the substation boundary) would be subject to negligible vibration from the operational substation.

9. Ecology

9.1 Survey adequacy

9.1.1 The Applicant is satisfied that the level of field survey undertaken is proportionate to the type of activity proposed and allows a robust ecological impact assessment to be carried out. The Applicant notes that neither Natural England nor Horsham District Council (HDC) have highlighted a lack of survey information in general as an issue, acknowledging that HDC have questioned whether additional survey information for the Oakendene construction compound is required. It is noted that the approach to baseline data collection and the interim results of the surveys were shared on a number of occasions with the Expert Topic Group (see Section 22.3 of **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**) to gauge their opinion, amongst other matters, on adequacy of survey effort.

9.2 Nightingale

9.2.1 The nightingale records provided by CowfoldvRampion show nightingale activity in the same locations recorded in **Appendix 22.13: Breeding bird survey, Volume 4** of the ES **[APP-191]**, with additional activity outside of the proposed DCO Order Limits. Although there are more records shown on the maps supplied by CowfoldvRampion this is likely because the process of assigning these to individual territories has not taken place in the same way as is typical for a territory mapping style survey (see Annex D of **Appendix 22.13: Breeding bird survey, Volume 4** of the ES **[APP-191]**). The approach is based on the premise that individual sightings or aural registrations of birds do not equate to an individual territory. The Applicant is content that the nightingale territories recorded during the survey are representative of the data that has been provided by CowfoldvRampion.

9.2.2 It is notable that the majority of records supplied by CowfoldvRampion are outside of the proposed DCO Order Limits. The potential effects on nightingale are assessed in Section 9 of **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**. The data presented by CowfoldvRampion does not warrant a change to the conclusions drawn.

9.3 Meadow habitat

9.3.1 CowfoldvRampion provide a description and photographs of grassland fields around Crateman's Farm and Moatfield Farm and describe as lowland meadow. Lowland meadow is a priority habitat that is described in the UK Biodiversity Action Plan Habitat Descriptions (BRIG (ed. Ant Maddock), 2008). This describes lowland meadow as being unimproved grasslands across the enclosed lowland landscapes of the UK.

9.3.2 The Phase 1 habitat survey (**Appendix 22.3: Extended Phase 1 habitat survey report, Volume 4** of the ES **[APP-181]**) describes these fields as being poor semi-

improved grassland. **Appendix 22.4: National Vegetation Classification survey report 2021-2022, Volume 4** of the ES **[APP-182]** shows that more detailed botanical survey occurred in two areas of grassland adjacent to this area. The botanist that undertook the surveys in these two parcels of land did not note meadows of particular interest in the adjacent areas (brief notes are provided in the report). As this survey was done in mid-June 2022 (peak season for grassland flora being on show) it would suggest that interest was not piqued.

9.3.3 Further, three surveyors who undertook Phase 1 habitat surveys and breeding bird surveys in this location were spoken to regarding their recollection of the area. All confirmed that this area would not qualify as the priority habitat lowland meadow.

9.3.4 The photographs and videos provided by CowfoldvRampion show a mix of grassland patches within fields. These appear to vary in quality (with regards biodiversity) with some appearing to be in line with the results shown in **Appendix 22.3: Extended Phase 1 habitat survey report, Volume 4** of the ES **[APP-181]**, with others potentially being recorded as semi-improved grassland (as opposed to poor semi-improved grassland). However, the overall outcome of the assessment in Section 9 of **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]** would not alter. There would be a marginal increase in the biodiversity net gain numbers presented in **Appendix 22.15: Biodiversity Net Gain Information, Volume 4** of the ES **[APP-193],** although this is academic as the baseline will need to be verified and condition assessed again post-consent to enable agreement of Requirement 14 of the **Draft Development Consent Order** **[PEPD-009]**. This additional survey is required as the survey data across the route was gathered across three different versions of the Biodiversity Net Gain metric and accompanying supporting information. This means that habitat condition assessment data in particular will need to be standardised to support the calculations.

9.4 Reptiles

9.4.1 The presence of reptiles is raised as a potential issue. Reptiles commonly occur on construction sites and their welfare needs to be accounted for. This is ensured through compliance with the Wildlife & Countryside Act 1981 (as amended). Along the cable route the construction activity is temporary with the location of activity changing rapidly as ducts are laid. The area, in any given location, is also restricted. For this type of encounter tried and tested approaches (as described in the **Outline Code of Construction Practice** **[PEPD-033]**) can be applied through the Ecological Clerk of Works (ECoW). At the location of the substation, the larger and permanent works will potentially require a trap and translocation effort. Again, this is a typical approach to reptile mitigation and can be implemented by the ECoW.

9.5 Hedgerows / Tree Lines

9.5.1 Hedgerows and tree lines to be affected are detailed in the vegetation retention plans appended to the **Outline Code of Construction Practice** **[PEPD-033]**. Following the issue specific hearing, these losses are being reviewed and an updated document will be provided at Deadline 3.

10. Traffic and transport

10.1 Introduction

10.1.1 The likely significant transport effects associated with the construction phase of the Proposed Development have been assessed in **Chapter 23: Transport, Volume 2** of the Environmental Statement (ES) **[APP-064]**, **Chapter 32: ES Addendum [REP1-006]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-009]**. The methodology used follows Institute of Environmental Management and Assessment (IEMA) (1993) publication Guidelines for the Environment Assessment of Road Traffic.

10.1.2 At the request of the Examining Authority the Applicant has also completed a Technical Note (see **Review of IEMA Guidelines on Environmental Assessment of Traffic and Movement** (**Document Reference: 8.41**) submitted at Deadline 2) in response to Action point 8 from Issue Specific Hearing 1: *Note to be provided on the principal differences between the 1993 and 2023 Institute of Environmental Management's Traffic Assessment Guidance documents and whether there would be difference in the outcome of the assessment if the latter was used*. The **Review of IEMA Guidelines on Environmental Assessment of Traffic and Movement** (**Document Reference: 8.41**) confirmed that use of the new guidance would not result in the identification of new significant effects in comparison with the conclusions of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**. It should also be noted that use of the EATM 2023 guidance also removes the significant effects in relation to fear and intimidation identified within **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** for Michelgrove Lane and Kent Street.

10.1.3 Furthermore, during pre-application consultation with National Highways and West Sussex County Council it was agreed that **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-009]** would provide a level of detail considered to be proportionate to the volume of traffic predicted to be generated by the Proposed Development. It is also noted in West Sussex County Council's Relevant Representation **[RR-418]** that the highway authority are content with all baseline traffic data used in the assessment of the Proposed Development.

10.2 A272

Traffic Routing through Cowfold

10.2.1 To limit the effects on these receptors a range of embedded environmental measures have been provided by the Applicant as detailed within the **Commitments Register [REP1-016]** submission and secured through the **Outline Construction Traffic Management Plan (CTMP) [REP1-010]**. The production of a stage specific CTMP in accordance with the **Outline Construction Traffic Management Plan** [**REP!-010]** is secured through Requirement 24 of the

Draft Development Consent Order [PEPD 009]. The **Outline Construction Traffic Management Plan [REP1-010]** includes:

- Commitment C-157: The proposed heavy goods vehicle (HGV) routing during the construction period to individual accesses will be developed to avoid major settlements of Storrington, Cowfold, Steyning, Wineham, Henfield, Woodmancote and other smaller settlements where possible; and
- Commitment C-158: The proposed heavy goods vehicle (HGV) routing during the construction period to individual accesses will avoid the Air Quality Management Area (AQMA) in Cowfold where possible.

10.2.2 These commitments are also reflected in Table 5-1 of the **Outline Construction Traffic Management Plan [REP1-010]** and confirms prescribed local Heavy Goods Vehicle (HGV) access routes for all sections of the onshore cable corridor and Table 5-2 which details specific local constraints and proposed management of construction traffic routes.

10.2.3 These commitments ensure that HGV construction traffic will route along the A27 and A23 to gain access to the A272 east of Cowfold wherever possible, thereby avoiding the village centre. Therefore, only accesses A-56 and A-57 will require construction traffic to route through Cowfold Village centre. As calculated by using data included in Table 5-3 of the **Outline Construction Traffic Management Plan [REP1-010]**, the impact of this commitment is the removal of up to 22,000 two-way HGV trips (11,000 HGVs) from Cowfold Village centre over the construction phase.

10.2.4 Whilst commitment C-157 and C-158 (**Commitments Register [REP1-016]**) discourages traffic from routeing through the Cowfold AQMA for robustness within **Chapter 23: Transport, Volume 2** of the ES **[APP-064] and Chapter 32: ES Addendum [REP1-006]**, it has been assumed that approximately 25% of HGV traffic will route through Cowfold from the A24 and A272 east of the village centre when entering or exiting construction accesses at Oakendene, Kent Street or Wineham Lane. For clarity, this assessment does not reflect the intention of the Applicant to route this level of traffic through the AQMA but provides a robust basis for assessing impacts within the Cowfold.

10.2.5 In relation to construction LGV traffic, these have been split into three categories within the **Outline Construction Traffic Management Plan [REP1-010]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-009]** to allow consideration of LGV staff traffic, LGV delivery traffic and LGV construction traffic and provide a robust basis for assessment. Whilst no routing restrictions have been placed on LGV staff traffic routing to and from the temporary construction compounds and onshore substation at Oakendene (as is normal for staff routing to a place of work), routes have been identified for all LGV delivery traffic and LGV construction traffic. This also assumes that all LGV construction traffic including deliveries will route to one of the temporary construction compounds first and then if needed onto work sites via Multi-Occupancy Vehicles to limit the amount of construction traffic traveling to individual work sites. The movement of LGVs associated with all construction elements of the Proposed Development has therefore been included within assessments provided within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**.

10.2.6 At peak construction, taking account of the construction traffic routing contained within the **Outline Construction Traffic Management Plan [REP1-010]** submission, the following effects have been identified for Cowfold:

- At A281 south of Cowfold (Receptor 23):
  - An HGV peak week increase of 12 HGVs per day, equivalent to an increase of 7.5% and approximately one HGV per hour; and
  - A total construction traffic peak week increase of one HGV per day and 71 light goods vehicles (LGVs) per day (5-6 per hour), equivalent to a 1.1% increase in total traffic flow.
- The A281 / A272 in the centre of Cowfold (Receptor 24):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 3.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 154 LGVs (12-13 per hour), equivalent to a 0.7% increase in total traffic flow.
- The A272 Station Road west of Cowfold Village centre (Receptor 25):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 4.6% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 154 LGVs (12-13 per hour), equivalent to a 0.9% increase in total traffic flow.
- The A272 Bolney Road east of Cowfold Village centre (Receptor E):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 5.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 147 LGVs (12-13 per hour), equivalent to a 0.8% increase in total traffic flow.

10.2.7 On this basis **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** concluded that the Proposed Development would not generate any significant effects with the centre of Cowfold.

Highway Capacity

10.2.8 Estimates of peak construction traffic flows for highway links is provided in **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** whilst **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-009]** also details peak construction traffic flows for individual construction accesses.

10.2.9 The peak construction traffic impact on the A272 will be made up of construction traffic accessing the Oakendene Compound (Access A-62) and Substation (Access A-63) in addition to construction traffic travelling to / from construction sites along the onshore cable route. The following construction traffic peaks have been estimated along the A272 corridor:

- At the A272 Bolney Road east of Cowfold Village centre (Receptor E):

- An HGV peak week increase of 39 HGVs, equivalent to an increase of 5.5% and 3-4 HGVs per hour; and
- A total construction traffic peak week increase of 19 HGVs and 147 LGVs (12-13 per hour), equivalent to a 0.8% increase in total traffic flow.

- At the A272 Cowfold Road west of the A32 (Receptor F):
  - An HGV peak week increase of 101 HGVs (12.7%) assuming some approximately 25% of all HGVs route through Cowfold and an increase of 140 HGVs (17.5%) if all HGVs avoided Cowfold by routing to / from the east.
  - A total construction traffic peak week increase of 197 total vehicles (1.0%) if approximately 25% of all HGVs route through Cowfold and an increase of 216 total vehicles if all HGVs avoided Cowfold (17.5%) by routing to / from the east.

10.2.10 The Applicant disagrees with CowfoldvRampion's assertion that use of 24-hour baseline traffic to assess the impacts of the Proposed Development is misleading and considers that given the peak construction week traffic flow impacts reported the use of an alternative 12-hour or 18-hour baseline unlikely to change the conclusions of the ES.

10.2.11 In addition, the Oakendene Compound (Access A-62) and Substation (Access A-63) are predicted to experience the following peak week construction traffic flows;

- Access A-62 (Oakendene Compound) will cater for 326 HGV two-way movements and 456 LGV two-way movements across a one-week period. This is the equivalent of 156 construction traffic two-way movements per day or 13 per hour. (approximately 6 entering and 6 exiting the compound).
- Access A-63 (Oakendene Substation) will cater for 326 HGV two-way movements and 564 LGV two-way movements across a one-week period. This is the equivalent of 178 construction traffic two-way movements per day or 14-15 per hour (approximately 7 entering and 7 exiting the access junction).

10.2.12 These construction traffic estimates show that at peak construction the Oakendene Compound and Substation access junctions will serve approximately one vehicle in each direction every 8-10 minutes. The Applicant therefore considers that these construction traffic flows will not have a material impact on the operation of the highway network in vicinity of the proposed access junctions.

10.2.13 Furthermore, the **Outline CTMP** **[REP1-010]** has as part of its primary objectives to 'keep construction traffic to a minimum during peak network periods to reduce the impact on the highway network' (Paragraph 1.22 of the **Outline CTMP** **[REP1-010]**). This will be achieved in part by the use of a Delivery Management System which will be used to control the delivery of materials and equipment whilst also minimising the number of construction vehicles on the highway through a booking schedule.

10.2.14 The **Outline Construction Workforce Travel Plan (CWTP)** **[APP-229]** also sets out principles for managing the effects of travel by construction personnel during the construction phase. The **Outline CWTP** **[APP-229]** details measures to maximise the sustainability of travel methods used to get to and from onshore sites, including the use of car sharing and multi-occupancy vehicles to transport

workers to compound from cluster locations such as railway stations. However, for assessment purposes it was assumed by the Applicant that no car sharing take place as part of the Proposed Development.

10.2.15 Taking account of the above, the Applicant considers the assessment of the Proposed Development to be robust and appropriate in relation to its impacts on highway capacity.

Highway Safety

10.2.16 The likely significant effects associated with the construction phase of the Proposed Development, including highway safety, have been assessed in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum [REP1-006]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-009]**. These assessments, which included a detailed review of accident data on highway links and in the vicinity of proposed access junctions, concluded that the Proposed Development would not generate any significant effects related to highway safety.

10.2.17 Directly in relation to the A272 the Applicant is currently preparing preliminary highway designs for Oakendene Compound (Access A-62) and Substation (Access A-63). These accesses will be designed in accordance with Design Manual for Roads and Bridges (DMRB) and will be subject to an independent Road Safety Audit to ensure that safe access and egress can be achieved by construction traffic. It is the aim of the Applicant to agree a suitable layout for these locations with West Sussex County Council before the end of the examination.

10.2.18 Given that these access junctions will be designed with appropriate visibility splays in accordance with DMRB standards and the peak construction traffic flows detailed in paragraph 10.2.11 the Applicant does not consider traffic signals to be necessary to support safe access and egress from Oakendene Compound or Substation.

10.2.19 Section 5.3 of the **Outline Code of Construction Practice (CoCP) [PEPD-033]** details the practical measures and monitoring procedures that will be implemented to manage the impact of dust in construction areas. This includes implementing a wheel wash system with rumble grids to dislodge accumulated dust and mud, prior to leaving site, where reasonably practicable.

10.3 Kent Street

10.3.1 The likely significant effects associated with the construction phase of the Proposed Development on Kent Street have been assessed in **Chapter 32: ES Addendum [REP1-006]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-009]**. This concluded the Proposed Development will generate significant effects related to fear and intimidation, pedestrian delay and pedestrian amenity during peak construction activities.

10.3.2 Whilst the peak week of construction traffic is predicted to lead to a significant environmental effect this peak of construction activity is short term, lasting approximately two weeks. In between these construction peak periods it is

predicted that HGV flows will be more than 10 vehicles per day (one per hour) for only 13 weeks of the construction programme.

10.3.3 Given the single lane track nature of Kent Street, the Applicant is currently reviewing options for the implementation of traffic management along Kent Street and accesses A-61 and A-64 to provide safe access for construction and general traffic. This may involve measures such the implementation of a speed limit reduction, passing places, or managed access via banksmen and will also consider access and egress via the A722. A traffic management plan for Kent Street will be produced as required at Deadline 3.

10.3.4 The outcomes of this review will be discussed with West Sussex County Council at the earliest opportunity with the aim of reaching an agreement in principle to the traffic management strategy. This would then be secured through a detailed CTMP for the stage of the authorised development comprising Kent Street which will be required to be submitted and approved by the highways authority before commencement within that stage in accordance with Requirement 24(1)(a) of the **draft DCO** **[PEPD-009]**.

10.4 Dragons Lane

10.4.1 Dragons Lane is within the Order Limits for an operational access (Works No. 15) as shown on Sheet 31 of the **Onshore Works Plans** **[PEPD-005]**.

10.4.2 Operational access rights are defined in Schedule 7 of the **Draft Development Consent Order** **[PEPD-009]** and in summary comprise rights of access with or without vehicles and equipment: "*for the purposes of operation, maintenance and decommissioning of the authorised development*". Examples of the rights are expanded on further in Schedule 7.

10.4.3 The Dragons Lane access (A-58) is defined in Table 23-25 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** as an operational access only for the onshore cable route shown as part of Work No. 15 sheet 27 of the **Onshore Works Plans** **[PEPD-005]**. There is no route between Dragons Lane and the proposed substation. Paragraphs 23.4.21 and 23.4.22 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** describe the expected operational and maintenance phase activities which includes Operational access rights are defined in Schedule 7 of the **Draft Development Consent Order** **[PEPD-009]** and in summary comprise rights of access with or without vehicles and equipment: "for the purposes of operation, maintenance and decommissioning of the authorised development". Examples of the rights are expanded on further in Schedule 7.

10.4.4 The Dragons Lane access (A-58) is defined in Table 23-25 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** as an operational access only for the onshore cable route shown as part of Work No. 15 sheet 27 of the **Onshore Works Plans** **[PEPD-005]**. There is no route between Dragons Lane and the proposed substation. Paragraphs 23.4.21 and 23.4.22 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** describe the expected operation and maintenance phase activities which includes.

10.5 Kings Lane and Moatfield Lane

10.5.1 Kings Lane and Moatfield Lane provide a route to access A-60 which is defined in Table 23-24 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** as an operational access only for the onshore cable route. Paragraphs 23.4.21 and 23.4.22 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** describe the expected operational and maintenance phase activities which includes periodic testing of the cable through attendance by up to three light vehicles such as vans in a day at any one location. Unscheduled maintenance or emergency repair visits for the onshore cable will typically involve a very small number of vehicles, typically light vans. Infrequently, equipment may be required to be replaced, then the use of an occasional HGV may be utilised, depending on the nature of the repair. (Paragraph 23.4.22 within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**). Sheet 32 of the **Onshore Works Plan** **[PEPD-005]** also shows that Kings Lane and Moatfield Lane is for operational purposes only.

10.5.2 As shown in the **Outline Code of Construction Practice (CoCP)** **[PEPD-033]** the crossings of Kings Lane and Moatfield Lane by the onshore cable route is identified within Appendix A under reference TRX-1de-32 as being crossed by open cut method. This means that during construction access to properties located along Kings Lane and Moatfield Lane will be temporarily affected. The strategy to maintain private means of access during this period is described in Paragraph 5.7.10 of the **Outline Code of Construction Practice** **[PEPD-033]**. The following general principles will apply to the managed or private means of access during the cable route construction:

- Any access restrictions or effect on individual properties will be kept to a minimum and the Applicant will work with local stakeholders to develop individual solutions to keep disruptions as low as is reasonably possible.
- All crossings of private means of access will be developed to allow emergency access at all times.
- Contractors will be required to accommodate reasonable requests for access during the working day by temporary plating of the trench unless a suitable diversion is provided around the works.
- The trench will be plated or temporarily backfilled outside of construction working hours where feasible to restore access, unless a suitable diversion is provided around the works.
- Any access restrictions or closures will be communicated to all residents and businesses with affected rights of access.
- A nominated point of contact on behalf of the applicant will be communicated to all residents and businesses at least three months before the start of construction.

10.5.3 A final Code of Construction Practice will be required to be submitted and approved on a staged basis, in accordance with the **Outline Code of Construction Practice** **[PEPD-033]**, pursuant to requirement 22.

10.6 HGV Holding Area

10.6.1 The Applicant understands that an HGV holding area was used for the Rampion 1 project given the need for all construction vehicles to access the substation and compound on Wineham Lane. As the Proposed Development includes the Oakendene substation and compound that can be accessed directly from the A272, (which forms part of West Sussex County Councils' (WSCC's) lorry route network) it is not considered necessary to implement an HGV holding area.

10.7 CTMP and Traffic Generation Technical Note

10.7.1 The Applicant notes that the IP has made several comments regarding details contained within the **Outline Construction Traffic Management Plan [REP1-010**] and **Traffic Generation Technical Note [REP1-009]**.

10.7.2 The **Outline CTMP [REP1-010]** has been updated to include the following, which responds to comments raised by the IP:

- Table 5-3 provides a summary of total HGV traffic flow at all construction access junctions associated with the Proposed Development. For clarity accesses A-51, A-54, A-58 and A-59 are for operational purposes only and therefore will not be used during the construction stage;
- Table 6-2 provides a summary of total HGV traffic flow at all construction access junctions associated with the Proposed Development For clarity accesses A-51, A-54, A-58 and A-59 are for operational purposes only and therefore will not be used during the construction stage;
- An update to paragraph 4.8.1 to provide clarification that Light Goods Vehicles (LGVs) refers to Goods Vehicles which are less than 3.5 tonnes (T) and Heavy Goods Vehicles (HGVs) refers to Good Vehicles that are heavier than 3.5 T;
- An update to Table 5-1 to provide further clarification on HGV traffic routing;
- An update to the core working hours has been made to reflect updates made to commitment C-22 (**Commitments Register [REP1-015])** provided at Deadline 1 submission. This stages that:
  - Core working hours for construction of the onshore components will be 08:00 to 18:00 Monday to Friday, and 08:00 to 13:00 on Saturdays. Apart from specific circumstances that are set out in the Outline COCP, where extended and continuous periods of construction are required.
  - Prior to and following the core working hours Monday to Friday, a 'shoulder hour' for mobilisation and shut down will be applied (07:00 to 08:00 and 18:00 to 19:00). The activities permitted during the shoulder hours include staff arrivals and departures, briefings and toolbox talks, deliveries to site and unloading, and activities including site and safety inspections and plant maintenance. Such activities shall not include noise generating activity including use of heavy plant or activity resulting in impacts, ground breaking or earthworks.
- Corrections to Appendix A in relation to accommodation works required for individual accesses.

- Construction traffic routing shown on Figure 7.6.6, 7.6.9 and 7.6.13 has been updated to reflect that construction traffic will not use Kent Street south of access A-61 with all construction traffic instead using the A272 to the north.

10.7.3 The **Traffic Generation Technical Note** **[REP1-009]** has been updated to include the following, which responds to comments raised by the IP:

- Updates to baseline and future baseline traffic data to reflect additional links (including Kent Street) assessed within Chapter 32: ES Addendum of the ES [REP1-006].
- An update of total construction traffic flows at each access junction provided in Table 6-6.
- Further details of peak week construction traffic estimates included in Section 6.5.
- Inclusion of peak construction traffic flows at each access junction and at all receptors assessed within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, and **Chapter 32: ES Addendum** **[REP1-006]**.

10.7.4 The Applicant recommends that the IP reviews these documents in relation the queries raised in their Written Representation.

11. Historic environment

11.1 Oakendene

11.1.1 The Applicant provides the following comments in response to CowfoldvRampion Written Representation relating to Oakendene in Section 11 Historic Environment.

11.1.2 The design of the Proposed Development, including the onshore substation design, has been an iterative process that has sought to limit the potential for direct and indirect effects, wherever possible. This process was informed by the information set out in **Appendix 25.5: Oakendene parkland historic landscape assessment, Volume 4** of the ES **[APP-211]**. This document was prepared at the recommendation of West Sussex County Council (WSCC) during the non-statutory consultation exercise held between 14 January and 11 February 2021. The completed document was submitted to WSCC in April 2023, however, the information contained within was used to inform the design and optioneering process at an earlier stage.

11.1.3 The understanding of the historic environment interests of Oakendene Manor informed the design principles identified to reduce and minimise the impact on the setting of the building and these are secured in the **Design and Access Statement (DAS) [AS-003]**. The detailed design of the onshore substation must be undertaken in accordance with these design principles and provided for approval of the planning authority as per the requirements of the **Draft Development Consent Order [PEPD-009]** including 8 (2) which states that the design for approval, "*must accord with the principles set out in the relevant part of the design and access statement*". Requirement 12 (3) of the **Draft Development Consent Order [PEPD-009]** also requires accordance with the DAS for provision of the landscaping details for the onshore substation. The Applicant will update the **Design and Access Statement [AS-003]** following issues raised at Issue Specific Hearing 1 in February 2024, which will be submitted at Deadline 3.

11.1.4 **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** details the process of site selection and the consideration of alternatives. Further information is also provided **Deadline 1 Submission – 8.25.2 Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 2 - Further information for Action Point 4 – Wineham Lane [REP1-021]**. The onshore substation selection process took into consideration the potential effects on historic environment receptors, including Oakendene Manor.

11.1.5 The basis and assessment methodology used to determine effects on heritage assets and resulting harm, is described in Sections 26.7 and 26.8 of **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]** and is in line with relevant policy and guidance.

11.1.6 The assessment of effects on Oakendene Manor is provided in paragraphs 25.9.543 to 25.9.547 (for the construction phase) and 25.10.7 to 25.10.10 (for the operational and maintenance phase) of **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**. For the construction phase a Low magnitude of

change is assessed, resulting in a Moderate adverse residual effect which would be Not Significant.

11.1.7 For the operation and maintenance phase, a Medium magnitude of change is assessed, resulting in a Major adverse residual effect which would be Significant. The assessment provides the following qualifying statement with respect to the degree of harm to Oakendene Manor, "*As noted at paragraph 25.8.18, adverse change of less than a high magnitude to a designated heritage asset or non-designated heritage assets of equivalent heritage significance will normally be considered to comprise less than substantial harm. In this case, a medium magnitude of change would constitute less than substantial harm. This is because the listed building itself will be physically unaltered and important elements of its setting, including its relationship with the immediately surrounding gardens and the view to the south, will be preserved*." (paragraph 25.10.10 of **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**).

11.1.8 The Applicant notes Section 25.11 Assessment of effects: Decommissioning phase of **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**, specifically the following statement regarding the onshore substation, "*Removal of infrastructure will mitigate any visual and audible impacts arising during the operation and maintenance phase (as described in Section 25.10). Where mitigatory planting is retained, any effects on heritage significance through change to setting of heritage assets, as assessed for the operation and maintenance phase, will persist following decommissioning*."

11.1.9 It is noted that with regard to Oakendene Manor, Horsham District Council has stated in their Relevant Representation **reference 2.5.89 [RR-148]** that: "*HDC confirms that, having reviewed the location of designated above-ground heritage assets within the vicinity of the development and evaluated the contribution that their settings make to the significance of the asset, the impact of the development, including the substation, on these would be less than substantial at the lower end of the scale of that category in all cases of the historic environment and individual heritage assets*."

11.1.10 Based on the evidence provided to support the assessment in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**, the Applicant disagrees with CowfoldvRampion statement that "the harm would be substantial" and the "Oakendene's setting, also, would be completely destroyed."

11.1.11 The **Planning Statement** **[APP-036]** outlines the position with regards the planning balance with regard to the benefits of the Proposed Development and the harm to heritage assets that is identified in **Chapter 25: Historic environment, Volume 2** of the Environmental Statement **[PEPD-020]**, as per paragraphs 4.7.66 and 5.4.10 of the **Planning Statement** **[APP-036]**.

11.1.12 Where CowfoldvRampion comments suggest there are inconsistencies in assessed archaeological potential, the Applicant confirms that the assessment relates to the potential for remains to be present with the proposed DCO Order Limits and that this is informed by a range of baseline data, as described in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**.

11.1.13 Where CowfoldvRampion refer to Arundel Castle, this heritage asset was scoped into the assessment in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**.

11.1.14 Where CowfoldvRampion refer the "2km scoping boundary", the Applicant assumes this to refer to the 2km study area used to scope in heritage assets which may be affected by changes to their setting. The Applicant confirms that this is not an arbitrary boundary and refers to the approach as described in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]** and **Appendix 25.7: Settings assessment scoping report, Volume 4** of the ES **[APP-213]**. The Applicant also confirms that site walkovers were undertaken in winter to take account of leaf loss and the changes in views to and from heritage assets.

11.1.15 The Applicant confirms that the grade I listed Parish Church of St Peter (1354161) and the grade II* listed St Hugh's monastery (1027084) were scoped out of the assessment (see **Appendix 25.7: Settings assessment scoping report, Volume 4** of the ES **[APP-213]**).

11.2 Historic landscape

11.2.1 Effects on the historic landscape was assessed **Chapter 25: Historic Environment, Volume 2** of the ES **[PEPD-020]**.

11.2.2 **Appendix 25.4: Onshore geophysical survey report, Volume 2** of the ES **[PEPD-031, PEPD-113 to PEPD-119]** provides the results of geophysical survey that was undertaken across the proposed DCO Order Limits and former route options as presented at Preliminary Environmental Information Report (PEIR) and PEIR updates. The results of geophysical survey informed the design process and subsequent assessment in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**. The Applicant confirmed that LiDAR data also formed part of the baseline information used to assess the proposed scheme at the PEIR (and PEIR updates) stage and subsequent ES.

11.2.3 The assessment presented in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]** is based on a worst-case scenario. Therefore, the Applicant considers that further investigation would not change the outcome of the assessment.

11.2.4 Loss of vegetation has been minimised during the construction phase including areas of vegetation to be retained which is presented in the **Outline Code of Construction Practice** **[PEPD-033]** – Appendix B – Vegetation Retention Plans. Paragraph 3.3.12 of the **Design and Access Statement (DAS)** **[AS-003]** includes the design principle that existing vegetation will be protected and retained. The compliance with principles in the **Design and Access Statement** **[AS-003]** is secured through Requirement 9 of **Draft Development Consent Order** **[PEPD-009]**. The **Outline Code of Construction Practice** **[PEPD-033]** is secured through Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]**.

11.2.5 It is expected that replanting would be successful through the implementation of stage specific Code of Construction Practice CoCP) and stage specific Landscape and Ecology Management Plan (LEMP) secured and via Requirements 12, 13 and 22 of the **Draft Development Consent Order** **[PEPD-009]**.

11.2.6 As per Requirements 12 and 22 of the **Draft Development Consent Order [PEPD-009]**, no stage of the authorised project within the onshore DCO Order Limits are to commence until, for that stage, a written Landscape and Ecology Management Plan and associated work programme (which accords with the relevant provisions of the **Outline Landscape and Ecology Management Plan [APP-232]** and **Outline Code of Construction Practice [PEPD-033]**) has been submitted to and approved by the relevant planning authority.

11.2.7 An Arboricultural Impact Assessment has been submitted with the DCO Application (see **Appendix 22.16: Arboricultural Impact Assessment, Volume 4** of the ES **[APP-194]**). Section 4.7 of the **Outline Code of Construction Practice [PEPD-033]** includes a commitment (C285) to produce an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) based on the detailed design. The provision of the AMS and TPP is secured as part of the Code of Construction Practice secured in Requirement 22 of the **Draft Development Consent Order [PEPD-009]**. The Applicant is updating tree losses in the **Appendix 22.16: Arboricultural Impact Assessment, Volume 4** of the Environmental Statement **[APP-194]** for submission at Deadline 3.

11.2.8 The tree data from the **Appendix 22.16 Arboricultural Impact Assessment, Volume 4** of the ES [APP-194] was reviewed and informed the baseline and assessment within **Appendix 25.5: Oakendene parkland historic landscape assessment, Volume 4** of the ES **[APP-211]**. Some trees have the potential to be surviving specimens of historic planting schemes from former parkland use. Where trees collectively form part of the historic interest of the former parkland or the setting of Oakendene Manor, this has been adequately addressed in the assessment in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**.

11.2.9 The Applicant notes Horsham District Council's comment in their Local Impact Report: "*13.10 The substation would involve removal of field trees. These trees may have been part of the managed estate in the nineteenth century but this does not mean they contribute to the special interest of the listed building through its managed landscape (parkland) setting. This is the case here. The trees as a group and individually do not contribute to the special interest of the Listed Building through its setting*."

11.2.10 Commitments C-225 (updated by the Applicant within the **Outline Code of Construction Practice [PEPD-033]** (submitted at the Pre-Examination Procedural Deadline A on 16 January 2024)) and C-79 in the **Commitments Register [REP1-015]** (updated at the Deadline 1 submission) provide for mitigation through design and archaeological recording. This will be secured through the **Outline Onshore Written Scheme of Investigation (WSI) [APP-231]**, which also sets out the methodological approach for archaeological investigations which ensures further investigation will be undertaken prior to construction. The **Outline Onshore Written Scheme of Investigation [APP-231]** is secured by Requirement 19 of the **Draft Development Consent Order [PEPD-009]**. Further engagement is currently being undertaken with the WSCC Archaeologist and Historic England on the **Outline Onshore Written Scheme of Investigation [APP-231]** and a revised version will be submitted at Examination Deadline 3.

11.2.11 Where CowfoldvRampion refer to effects on Kent Street, please refer to the Applicant's responses to **Section 7** of CowfoldvRampion Written Representation in this document, which relate to landscape and visual.

11.3 Oakendene Parkland

11.3.1 Please see Applicant's response in **Section 11.1** of this document.

11.3.2 Additionally, the Applicant confirms that the significance of the former historic parkland was not *downplayed*. **Appendix 25.5: Oakendene parkland historic landscape assessment, Volume 4** of the ES **[APP-211]** appropriately makes reference to the Industrial Estate as it occupies the western part of the former parkland, and forms part of the wider setting of both the former parkland and Oakendene Manor. The Applicant confirms that the assessment of the former parkland at Oakendene was supported by a site visit.

11.3.3 The Applicant disagrees that views from PRoW 1786 "*will be destroyed forever*". The views would change as a result of the Proposed Development, construction activity would be temporarily perceptible and perception of the Oakendene substation would be possible during the operational and maintenance phase. Please refer to **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** for the relevant assessment and the Applicant's response to Section 6 of CowfoldvRampion written representation in this document. **Appendix 25.5: Oakendene parkland historic landscape assessment, Volume 4** of the ES **[APP-211]** considers the presence of PRoW 1786 within the former parkland.

11.3.4 The Applicant confirms that no damage will occur to the listed building Oakendene Manor, which lies outside of the proposed DCO Order Limits. As noted in Section 11.1 of this document, the **Planning Statement** **[APP-036]** outlines the position with regards the planning balance with regard to the benefits of the Proposed Development and the harm to heritage assets that is identified in **Chapter 25: Historic environment, Volume 2** of the Environmental Statement **[PEPD-020]**, as per paragraphs 4.7.66 and 5.4.10 of the **Planning Statement** **[APP-036]**.

11.4 Oakendene Manor

11.4.1 Please see Applicant's response in **Section 11.1 and 11.3** of this document.

11.4.2 Where CowfoldvRampion refer to statements made in **Appendix 25.7: Settings assessment scoping report, Volume 4** of the ES **[APP-213]**, these are brief statements of justification for scoping in of heritage assets. The full assessment of Oakendene Manor and the former historic parkland as provided in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**.

11.4.3 CowfoldvRampion incorrectly quote the West Sussex County Council (WSCC) Principal Areas of Disagreement Statement (PADS) point 43. The Applicant is engaging with WSCC regarding the PADS and working toward a Statement of Common Ground. The Applicant also notes Horsham District Council's Relevant Representation **Reference 2.5.89 [RR-148]**, as referred to in **Section 11.1** of this document.

11.5 Kings Barn

11.5.1 Grade II Listed King's Barn (NHLE 1027089) has been correctly identified in **Appendix 25.8**: **Onshore heritage asset baseline report**, **Volume 4** of the ES **[APP-214]** and is assessed in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**. Listed building data is obtained from the National Heritage List for England, which is the only official, up to date, register of all nationally protected historic buildings and sites in England.

11.6 Cratemans Farm

11.6.1 The Applicant confirms that the Proposed Development will not "*destroy the Historic Farmstead and its setting*" as stated by CowfoldvRampion, as is evidenced in the assessment provided in **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]** (paragraphs 25.9.466 and 25.9.467 for the construction phase). This heritage asset was scoped out of the assessment for effects during the operational and maintenance phase, see **Appendix 25.7: Settings assessment scoping report, Volume 4** of the ES **[APP-213]**.

11.6.2 Please see Applicant's response to comments relating to ecological matters in **Section 9** of this document.

12. Water environment

12.1 Oakendene winter flooding and photographs

12.1.1 CowfoldvRampion present a range of photographs in Appendix 3 (page 219) and Appendix 2 of the Addendum (page 227 to 235). A number of these are indicated as taken at the onshore substation site at Oakendene and the Cowfold Stream. The photographs are used to assert the claim that the substation site is prone to surface water flooding and winter waterlogging of ground which is not reflected in the Environment Agency Risk of Flooding from Surface Water (RoFSW) mapping, upon which the assessment of flood risk to the substation is primarily based, as set out in Paragraph 5.7.14 of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]**. It is claimed that the site will be waterlogged each winter, until each April at the earliest.

12.1.2 The Applicant's review of the relevant photographs is set out in **Table 12.1** below. In reviewing these photographs, the Applicant has numbered them for reference, reading sequentially down the page from left to right. The focus of this review has been on those at and around the substation site which have been geolocated to pinpoint their exact location. The photographs have each been grouped into relevant locations in the below table, along with a check against the relevant Environment Agency surface water flood map (RoFSW mapping).

12.1.3 As a general point, there is uncertainty as to the date the photographs were taken, despite dates being provided on some pages. For example, the trees in the background of Photograph 1 on page 228 are in leaf, whereas in Photo 3 on the same page, the trees are bare. Both photographs are under the heading indicating a date of 3 November 2023.

12.1.4 The Applicant considers that the flood extents and standing water indicated in the photographs to be entirely consistent with the Environment Agency RoFSW mapping. Photographs provided of the substation site itself are limited to a view of the eastern boundary of the site looking west from Kent Street. The standing water indicated is consistent with the RoFSW mapping, which indicates 'High' risk in this area associated with a flow path that flows south, as shown in Figure 26.2.6a of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]**. Similarly, photographs provided showing flooding associated with the watercourse and lake all show flood extents that are within the mapped RoFSW 'High' risk extents. These photos therefore provide a means of validation of the Environment Agency RoFSW mapping, providing further confidence in the assessment approach used and minimising uncertainty.

Table 12.1 Photo review

Location	Page and number	Date1	Comment	Comparison to Environment Agency surface water flood map
Substation site (all photographs are from the eastern boundary of the site looking west from Kent Street)	228-1	3 November 2023	Shallow standing water (approx. 0.05m to 0.20m deep) on the eastern boundary of the substation site (approximately 30m east of the substation footprint) captured from Kent Street (not from the southern boundary of the site as claimed). Uncertainty as to the date taken, given the trees in the background are in leaf, whereas Photo 3 on the same page (below) is also under the heading of 3 November 2023, but the trees are bare.	Consistent with Environment Agency mapping - within area of high risk
	228-3	3 November 2023	Shallow standing water (approx. 0.05m to 0.20m deep) on the eastern boundary of the substation site (approximately 30m east of the substation footprint) captured from Kent Street.	Consistent with Environment Agency mapping - within area of high risk
	230-1	December 2023	Shallow standing water (approx. 0.05m to 0.10m deep) on the eastern boundary of the substation site (approximately 30m east of the substation footprint) captured from Kent Street.	Consistent with Environment Agency mapping - within area of high risk
	230-2	December 2023		
	231-1	January 2024	Shallow standing water (approx. 0.05m to 0.20m deep) on the eastern boundary of the substation site (approximately 30m east of	Consistent with Environment Agency mapping - within area of high risk
	231-2	January 2024		

Location	Page and number	Date1	Comment	Comparison to Environment Agency surface water flood map
			the substation footprint) captured from Kent Street.	
	235-5	8 February 2024	Shallow standing water (approx. 0.05m to 0.20m deep) on the eastern boundary of the substation site (approximately 30m east of the substation footprint) captured from Kent Street.	Consistent with Environment Agency mapping - within area of high risk
	235-6	9 February 2024		
Watercourse (to south of substation site)	228-2	3 November 2023	View of watercourse entering Kent Street culvert (upstream of the substation site), approximately 75m southeast of the substation footprint.	Consistent with Environment Agency mapping - within area of high risk
	231-3	January 2024		
	235-1	8 February 2024		
	235-2	8 February 2024	View of the watercourse in flood from the southern bank looking north.	Consistent with Environment Agency mapping - within area of high risk
	235-3	8 February 2024	View north along Kent Street at the watercourse culvert.	Consistent with Environment Agency mapping - within area of high risk
Lake (downstream of the onshore substation site at Oakendene)	227-1	3 November 2023	Facing north towards the Oakendene Industrial Estate from the outlet of the lake downstream of the substation site. Flood level as shown in Photo 2 is at the level of the footbridge.	Consistent with Environment Agency mapping - within area of high risk
	227-2	3 November 2023		

Location	Page and number	Date1	Comment	Comparison to Environment Agency surface water flood map
	227-3	3 November 2023	View facing north from southern bank of the lake. The vegetation in the foreground and background represent the banks of the lake.	Consistent with Environment Agency mapping - within area of high risk
	228-4	3 November 2023	View facing north of flood water flowing west across the Public Right of Way which crosses the watercourse (and lake) at the southern boundary of the substation site. Depth of overtopping water across the footpath estimated to be approximately 0.10-0.30m.	Consistent with Environment Agency mapping - within area of high risk
	235-4	8 February 2024	View facing west towards lake from Public Right of Way (as indicated in 228-4 above). The trees represent the banks of the lake.	Consistent with Environment Agency mapping - within area of high risk
Cowfold Stream	219-1	Unknown	View west of Cowfold Stream floodplain showing fluvial flooding at Gratwicke Stud Farm	Consistent with Environment Agency mapping - within area of high risk (and Flood Zone 3).
	219-2	January 2021	View of standing water (approximately 0.05m to 0.20m deep) at Cratemans Farm.	Consistent with Environment Agency mapping - within area of high risk (and Flood Zone 3).
	219-3	January 2014	View of Cowfold Stream in flood at Moatfield Farm.	Consistent with Environment Agency mapping - within area of high risk (and Flood Zone 3).

Location	Page and number	Date1	Comment	Comparison to Environment Agency surface water flood map
	219-4	November 2022	View of Cowfold Stream in flood at Moatfield Farm.	Consistent with Environment Agency mapping - within area of high risk (and Flood Zone 3).
	233-1	5 January 2024	Fluvial flooding at Cratemans Farm, associated with the Cowfold Stream.	Consistent with Environment Agency mapping - within area of high risk (and Flood Zone 3).
	233-2			
	233-3			
	233-4			
	233-5			
	232-1	November 2023		
Other	234-1	January 2024	Fluvial flooding of the A281 at Mock Bridge, associated with the River Adur west branch.	Consistent with Environment Agency mapping - within area of high risk (and Flood Zone 3).

[1]CowfoldvRampion to confirm exact date of photographs, where missing, due to inconsistencies as seen in photo 3, Page 228. Trees are shown ‘in leaf’ in Photo 1 alongside Photo 3 of the same trees which are bare (it is assumed Photo 3 was taken later in the winter and erroneously date stamped as 3 November 2023).

12.1.5 The Meteorological Office's (Met Office's) seasonal assessment for Autumn 2023 (Met Office, 2023a) records that "the UK recorded its 6th wettest October in the series from 1836" and that *"much of … south-east England … received well over twice the monthly average rainfall. After a very wet first half, November overall was unremarkable"*. The seasonal report also notes that *"four named storms affected the UK during the autumn from late September to mid-November: – Agnes, Babet, Ciarán and Debi. These contributed to exceptionally wet and, at times, stormy weather…. Storm Ciarán, at the start of November, was an exceptionally powerful storm – comparable in severity with the 'Great Storm' of 16 October 1987... These storms resulted in significant and widespread weather impacts, particularly from flooding – affecting all four nations…".*

12.1.6 In particular, it is noted that Storm Ciarán occurred between 1 to 2 November 2023 (Met Office, 2023b), so immediately preceded a number of the photographs taken at the substation site, the lake downstream and elsewhere, which were dated 3 November 2023. Furthermore, the Met Offices report on Storm Ciarán noted that, *"in many places through southern England, this storm resulted in a further 30mm of rainfall, with storm Ciarán slow to clear eastward, instead remaining centred in the North Sea during 2nd and 3rd with associated fronts bringing yet further rain. This was particularly unwelcome following the wet October when large areas of central and eastern England, eastern Scotland, the east of Northern Ireland parts of the South Coast recorded well over twice the monthly average rainfall".* It follows that the flooding indicated in the photographs were associated with an exceptional weather event and the minimal flooding shown in the photographs is unremarkable.

12.1.7 The Environment Agency water situation reports for November 2023 to February 2024 also indicate above average rainfall in all months. It is noted that December 2023 was the wettest December since 2012 (Environment Agency, 2023), and February 2024 was the fourth wettest February on record (Environment Agency, 2024). Standing water and waterlogging in areas of identified high surface water flood risk is therefore to be expected over this period as well.

12.1.8 In addition, a nearby Environment Agency rainfall gauge in Cowfold (Shoothill Ltd, 2024) (approximately 1.2km west of the site) has been reviewed by the Applicant to understand the antecedent local conditions preceding the photographs captured on 3 November 2023 and 8 February 2024 (for which the exact date is known). The week preceding 3 November 2023 was exceptionally wet at Cowfold, with a total of 104mm of rainfall falling (including 20mm on the preceding day, 2 November 2023) and 8 February 2024 recorded a total of 41mm of rain throughout the day.

12.1.9 The Applicant undertook a site visit to the substation site and watercourse on 2 February 2024. It is acknowledged that minimal rainfall (<1mm) fell during the preceding week (based on review of the Cowfold rainfall gauge), however the watercourse was noted to be in-channel and no standing water was observed across the substation site. This provides evidence that it is surface water flood risk driving the local flooding patterns (and noted standing water), rather than any groundwater influence, given that groundwater levels would be expected to rise throughout the winter, and expected to peak around late-March.

12.1.10 Based on the evidence above, the Applicant is confident the precautionary approach in the **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]** and **Design and Access Statement** **[AS-003]** will ensure the onshore substation will not be at flood risk, nor increase flood risk elsewhere.

12.2 Outline Operational Drainage Plan

12.2.1 There is concern raised by CowfoldvRampion with regard to the viability of the proposed drainage strategy for the onshore substation at Oakendene, including with respect to local ground conditions and surface water flood risk at the site as discussed above, an impermeable substation footprint, displacement of underlying groundwater and the incorporation of climate change in the Applicant's assessment.

12.2.2 The Applicant's **Outline Operational Drainage Plan** **[APP-223]** sets out the drainage strategy for managing surface water run-on and runoff from the substation throughout the operational lifetime of the development. The proposed Sustainable Drainage (SuDS) measures as shown in the Indicative SuDS Plan in Appendix A provide the proposed approach for discharges being limited to greenfield Q_{BAR} (mean annual flood) rates and/or two l/s/ha (whichever is greater). These measures would ensure that surface water runoff rates remain unchanged (and, for more extreme events, reduced) from the current greenfield rate.

12.2.3 The outline drainage strategy is based on several conservative assumptions. These include consideration of the maximum design parameters for the substation, assumed impermeability of the ground conditions (no infiltration has been assumed to ensure maximum land take for the provision of attenuation storage) and climate change allowance (incorporation of a precautionary climate change allowance is detailed in Section 3.2 of the **Outline Operational Drainage Plan** **[APP-223]**). This has ensured sufficient land has been set aside and secured for the provision of SuDS features, without the need to incorporate long-term storage into the design. On this basis, there is deemed to be considerable flexibility within the current outline drainage plan.

12.2.4 Based on the evidence presented in Section 12.1 above regarding the flood risk being unlikely to relate to groundwater (and instead reflecting surface water ponding and/or run-off of the clay ground conditions and the exceptionally wet weather preceding the photographs), the Applicant is confident that groundwater (perched or otherwise) will not be a source of flood risk at the substation site. For example, Oakendene overlies the Wealden Clay Formation, which the Defra MAGIC website (Defra, 2023) identifies as unproductive strata with low groundwater vulnerability, and the online British Geological Survey (2022) GeoIndex Viewer describes this geology as being low permeability and generally having no groundwater except at shallow depths. In addition, environmental measure C-74 within the **Commitments Register** **[REP1-015]** and secured by Requirement 17 of the **Draft Development Consent Order** **[PEPD-009]** refers to the design of all sub-surface infrastructure to retain sub-surface flow pathways to avoid any localised increases in groundwater flooding. Even so, following productive discussions with West Sussex County Council (WSCC) and Horsham District Council (HDC) it was agreed that groundwater monitoring will be undertaken at the site as part of the detailed design stage, the results of which will

be used to inform the detailed drainage design. A new environmental measure (C-293) will be added to the **Commitments Register** **[REP1-015]** to reinforce this commitment to winter groundwater monitoring which will be incorporated into the **Draft Development Consent Order** **[PEPD-009]** for Deadline 3.

12.2.5 As stated in Paragraph 6.5.6 of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]**, final design and sizing of drainage measures will be determined at the detailed drainage design stage in liaison with WSCC (as Local Lead Flood Authority (LLFA)). The Operational Drainage Plan must accord with the **Outline Operational Drainage Plan** **[APP-223]** and will be secured via Requirement 17 within the **Draft Development Consent Order** **[PEPD-009]**.

12.3 Pollution of surface waters

12.3.1 CowfoldvRampion has a number of concerns regarding the potential pollution of watercourses with oils and herbicides originating from the onshore substation and elsewhere during construction, operation and decommissioning and escaping into the River Adur further downstream. The Applicant recognises these concerns and there are appropriate environmental measures in the **Commitments Register** **[REP1-015]** and secured by Requirements 22, 27, and / or 28 of the **Draft Development Consent Order** **[PEPD-009]** to address the risks. Key measures include C-8 (vehicle maintenance and refuelling), C-76 (Pollution Prevention Plans), C-129 (temporary construction compounds), C-135 ('stand-off' zones), C151 (contractor responsibilities), C-153 (Pollution Incident Control Plan) and C-167 (oil, fuel and chemical storage).

12.3.2 On this basis, **Chapter 26: Water environment, Volume 2** of the ES **[APP-067]** considers the potential impact of pollution to the River Adur and Cowfold Stream resulting from the Proposed Development and concludes that there is likely to be no significant impact to water quality in the River Adur and Cowfold Stream during the construction or operational phases of the Proposed Development.

12.4 Choice of substation site

12.4.1 The Applicant notes CowfoldvRampion's concern with regard to the choice of the onshore substation site at Oakendene over Wineham Lane.

12.4.2 Consideration of the two sites is considered in the application of the Sequential Test as set out in Section 9.1 of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]**.

12.4.3 Paragraphs 9.1.29 to 9.1.40 of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]** outline the approach taken with respect to the substation site. Of the shortlisted two options of Oakendene and Wineham Lane North, the Wineham Lane North site was considered to be marginally preferable from a flood risk perspective based on the Environment Agency RoFSW mapping (both sites being located in Flood Zone 1). However, at both sites the risk of surface water flooding was ultimately deemed to be low following the provision of appropriate mitigation (for which greater space was available at Oakendene to achieve appropriate mitigation compared to the spatially constrained Wineham Lane North site), and therefore any preference was considered to be marginal.

The final selection of the Oakendene onshore substation (at marginally higher surface water flood risk than the Wineham Lane North substation search area option, but with more space available to implement mitigation) was therefore driven by other technical and engineering constraints.

12.4.4 Based on the evidence provided in **Section 12.1** and **12.2** above with regard to flood risk and ground conditions at the Oakendene site, the Applicant is confident in the approach taken to assessment and mitigation of flood risk at the site as set out in **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]** and the **Outline Operational Drainage Plan** **[APP-223]**.

12.5 Flood risk records

12.5.1 The Applicant notes CowfoldvRampion's anecdotal information regarding historic flooding north of the A272 at South Lodge, the access road to Coopers Farm and Applecross, and at Oakendene Industrial Estate.

12.5.2 As noted in response reference 2.9.1, HDC advised that there are no formal HDC records of historical flooding incidents at the onshore substation site at Oakendene. No advice to the contrary was provided by WSCC during pre-DCO application consultation. The Applicant did not interpret this to mean that no flooding occurs at the site, but that there are no noted records of flooding at the site itself. This is understandable given the rural nature of the site. The lack of records of flooding was not taken by the applicant to mean that flood risk was not a matter requiring appropriate consideration. Assessment of flood risk at the site has followed a precautionary approach, as set out in Paragraph 5.7.14 of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]** and with reference to **Section 12.1** above.

12.5.3 The locations of flood incidents provided by CowfoldvRampion are upstream of and adjacent to the substation site, in areas of existing moderate to high risk as identified within the Environment Agency RoFSW mapping shown in Figure 26.2.5e and 26.2.6a of **Appendix 26.2: Flood Risk Assessment, Volume 4** of the ES **[APP-216]**.

12.5.4 With respect to the potential for flood risk to be exacerbated at these locations as a result of the construction works at the onshore substation site, a Construction Phase Drainage Plan will be developed by the contractor(s) to determine potential location specific risks in relation to the water environment and identify appropriate measures to avoid or reduce risk throughout construction. This is outlined in paragraph 5.10.9 of the **Outline Code of Construction Practice** **[PEPD-033]**, and the Construction Phase Drainage Plan is secured via Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]**.

12.5.5 In addition, the following embedded environmental measures (as outlined in Table 5-9 of the **Outline Code of Construction Practice** [**PEPD-033]**) are of relevance to ensure that the existing functionality and conveyance capacity of the drainage ditches and culvert beneath the A272 culvert are maintained to ensure no detrimental impact to upslope flood risk: C-28, C-30, C-73, C-119, C-175, C-126, C-130, C-179, C-181, and C-183.

12.6 Finished ground levels of substation platform

12.6.1 In relation to finished ground levels of the substation platform, reference is made to the **Deadline 1 Submission – 8.25.5 – Applicant's Post Hearing Submission – Issue Specific Hearing 1: Appendix 4 – Further Information for Action Point 20 Oakendene Substation Flood Risk [REP1-024]**, in which this matter is discussed in detail.

12.7 Cowfold Stream flooding patterns

12.7.1 There is concern raised by CowfoldvRampion with respect to the potential for cable trenches to impact flooding patterns on the Cowfold Stream floodplain. Commitment C-117 (see **Commitments Register [REP1-015]**) is in place to schedule work in Flood Zones 2 and 3 outside of the period between October and February to avoid the period when wildfowl are most likely to be present.

12.7.2 In addition, and in accordance with Commitment C-5 in **Commitments Register [REP1-015]**, the Cowfold Stream will be crossed using Horizontal Directional Drilling (HDD) or other trenchless technology given that this watercourse is a Main River. In addition, Commitment C-123 sets out provisions with regard to the siting of HDD pits outside of the floodplain, stating that: *"Starter (and exit) pits for Horizontal Directional Drilling (HDD) and other trenchless technologies will be micro-sited outside of the floodplain where possible (by moving the pit further away from watercourses)."* These measures are secured via Requirement 22 of the **Draft Development Consent Order [PEPD-009]** that requires agreement of stage-specific CoCP documents.

12.7.3 Therefore, there is anticipated to be no impact to the pattern of flow and storage on the Cowfold Stream floodplain associated with construction activities.

12.8 Screening out of Water Framework Directive lake water bodies from the impact assessment

12.8.1 CowfoldvRampion makes reference to the Applicant's Preliminary Environmental Information Report (PEIR) to imply that lake Water Framework Directive (WFD) water bodies have been 'screened out' (i.e. excluded) from the environmental impact assessment (EIA). However, Section 26.6 of **Chapter 26: Water environment, Volume 2** of the ES **[APP-067]** (paragraph 26.6.65) indicates that 16 WFD water bodies that have been 'screened in' for further assessment are included because they have features intersected or directly adjacent to the proposed DCO Order Limits. No lake WFD water bodies were identified in this group, but undesignated lakes that are within a wider WFD river water body catchment have been implicitly included in that water body's assessment. For instance, the lake close to the Oakendene onshore substation site lies within the Cowfold Stream WFD surface water body catchment (shown on Figure 26.2o of the **Chapter 26: Water environment - Figures (Part 1 of 2), Volume 3** of the ES **[APP-117]**) that has been included within the EIA. The embedded mitigation measures are considered sufficient to ensure that any effects are no greater than Negligible to Minor adverse (Not Significant) and will not lead to deterioration in WFD status in Cowfold Stream for any stage of the Proposed Development.

12.9 Water neutrality

12.9.1 CowfoldvRampion asserts that the Applicant is not able to demonstrate water neutrality. However, the Applicant presents a dedicated commitment in relation to water neutrality during the operation and maintenance of the onshore substation within Section 26.7 of **Chapter 26: Water environment, Volume 2** of the ES **[APP-067]** (paragraphs 26.7.10 to 26.7.12). This commitment and the supporting embedded mitigation measure (commitment C-260 of the **Commitments Register [REP1-015]**) are secured by Requirement 8 (2) in the **Draft Development Consent Order [PEPD-009]** so that further work can be progressed once the detailed design of the onshore substation has been developed. This requires that the details to be submitted with respect to the onshore substation (which must be approved prior to the commencement of works there) include water harvesting and recycling measures or any other measures necessary to ensure operational water neutrality.

12.9.2 Water required during the operation and maintenance of the unmanned onshore substation will be limited to supply of basic welfare facilities (toilet, faucet and shower for irregular use), with the Applicant currently intending to source potable water (e.g. via water dispensers) and water for fire suppression systems (e.g. via water tanks) from outside of the Sussex North Water Zone. One possible mitigation route is the Sussex North Offsetting Water Scheme (SNOWS) endorsed by Natural England. This is currently in development (with a dedicated HDC local authority delegate) to help improve the efficiency of appliances / devices elsewhere in the Sussex North Water Supply Zone and reduce regional water use. The idea behind the scheme is to enable developers to purchase credits to offset any water consumed at their proposed developments, and as critical infrastructure with very limited use of 'in-zone' water the Proposed Development is well-suited to accessing SNOWS. As noted in paragraph 26.7.10 of **Chapter 26: Water environment, Volume 2** of the ES **[APP-067]**, in the unlikely event of the strategic scheme not being available on time then other options could include a private scheme and / or not drawing water from a mains source (through off-site water imports / exports sourced from outside the Sussex North Water Supply Zone).

12.9.3 The above discussion relates to ensuring water neutrality with respect to the operation and maintenance of the onshore substation. In terms of water neutrality during the construction phase of the wider Proposed Development, water for construction usage in the Sussex North Water Zone will not be taken from the mains and it will instead be imported from outside of the Zone via tankers to main compounds (for their welfare facilities systems and wheel washing) and Trenchless Crossing compounds (for welfare facilities, use in horizontal directional drilling (HDD) drilling fluids, batching of cement bound sand or concrete, wheel washing and dust suppression). This commitment is secured through Requirement 22 within the **Draft Development Consent Order [PEPD-009]**, and on this basis, construction use was not considered and effectively screened out of the **Report to Inform Appropriate Assessment [APP-038]**. A new environmental measure (C-290) will be added to the **Commitments Register [REP1-015]** to reinforce this commitment to water neutrality during the construction phase.

12.9.4 In this way, water neutrality will be achieved for both the construction and operation phases of the Proposed Development, and potential adverse effects on the Arun Valley Special Area of Conservation, Special Protection Area and

Ramsar site due to increased abstraction in the Sussex North Water Supply Zone avoided.

12.9.5 HDC's suggestion that construction and / or operational water use in the Sussex North Water Zone could potentially be 'screened-out' altogether implies that part or all of the water use within the Zone could instead be potentially permitted to be sourced from the mains. The Applicant is not reliant on this mitigation but welcomes further discussions with HDC.

13. Assessment of consultation reports

13.1 Overview

13.1.1 The project has been subject of multiple rounds of iterative consultation with local people and environmental authorities (through statutory and non-statutory consultation as detailed in Section 5.9 of **Chapter 5: Approach to the EIA, Volumes 2** of the ES **[APP-046]**). This process, and evidence of regard had to consultation responses, is set out in the **Consultation Report** **[APP-027]**.

13.1.2 During each consultation, the Applicant's consultation materials included a combination of both simplified plans to enable consultees to review draft proposals in relation to their geographical area of interest, while also providing more technical and detailed **Onshore Work Plans** **[PEPD-005]**.

13.1.3 During each consultation, the Applicant's environmental information provided a full account of the impacts of draft proposals on the environment and communities and outlined mitigation proposals. This was set out in the consultation materials for each consultation, as follows:

- Statutory Project-Wide Consultation, July-September 2021 as set out in the Preliminary Environmental Information Report (PEIR) (Rampion Extension Development, 2021).
- Reopened Statutory Project-Wide Consultation, February – April 2022 as set out in the PEIR (RED, 2021).
- Statutory Onshore Consultation, October – November 2022 as set out in the PEIR Supplementary Information Report (SIR) (RED, 2022).
- Targeted Onshore Consultation, February – March 2023 as set out in the PEIR Further Supplementary Information Report (FSIR) (RED, 2023).

13.1.4 The consideration of responses to consultation is presented in the **Consultation Report** **[APP-027]**. This process resulted in the consideration of reasonable alternatives reported in **Chapter 3: Alternatives, Volume 2** of the Environmental Statement (ES) **[APP-044]** and the refinement to the final proposed DCO Order Limits.

13.1.5 For further information please see Appendix 15 Promotion of Rampion 2 Consultations in and around Cowfold 2021-2022 (**Applicant's Response to Relevant Representations** **[REP1-017]** submitted at Deadline 1).

14. Soils and agriculture

14.1 Introduction

14.1.1 At each stage of its development, the design of Rampion 2 has considered information on soils including Agricultural Land Classification (ALC) grades, particularly where these confirm or indicate the presence of best and most versatile agricultural land, or where soils are within areas rich in biodiversity. The potential for significant effects on soils and agriculture due to Rampion 2 was scoped in for assessment in the EIA, and the assessment of the effects of Rampion 2 on soils and agriculture is presented in paragraph 6.2.20 of **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**.

14.1.2 Regarding ALC survey coverage for Rampion 2, commitment C-183 in Table 20-17 in **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]** states that where safety or access constraints have limited the extent of soil and ALC survey to date, ALC survey will be completed at the required density, as advised by Natural England, by suitably qualified and experienced soil scientists or experienced soil specialists, post consent and prior to construction (i.e. during pre-construction), as part of detailed design. Following the additional ALC survey(s), the Outline SMP will be updated to Stage Specific SMPs. These will include protective measures for all relevant soil types and agricultural land grades within the working corridor. Natural England has confirmed its agreement with stage specific ALC surveys being completed. The Outline SMP including with the DCO application (**Outline Soils Management Plan [APP-226]**) includes measures for all soil types and ALC grades encountered during the surveys to date, as reported in paragraph 6.4.20.1 **Appendix 20.1: Detailed Agricultural Land Classification Report, Volume 4** of the ES **[APP-175]** and makes reference to available desk-based information for the areas not yet surveyed.

14.1.3 The Interested Party states that full ALC survey will not be carried out until construction however the timing of ALC survey to fill the current gaps in coverage will be during pre-construction. As described above, the findings of the ALC survey(s) will be used to update the Outline SMP (**Outline Soils Management Plan [APP-226]**) to Stage Specific SMPs. Stage Specific SMPs will state the ALC grades and soil types present on all agricultural land where soil disturbance will take place as a result of Rampion 2 and will include measures for handling and storing all identified soil types. Construction will not commence until ALC survey has been completed and an updated Stage Specific SMP produced for agricultural land to be subject to construction activity due to Rampion 2.

14.1.4 Regarding future design decisions to avoid or minimise effects on agricultural land, the Outline SMP states that the ALC grades should be used to inform ‘micro-siting’ in the final design so that where practicable, temporary or permanent development on the best quality agricultural land is avoided. Where there is flexibility for a final joint bay location to be positioned in areas of agricultural land with different ALC grades, consideration will be given by the Applicant in the final design to locating the joint bay in the land with the lowest ALC grade (with the highest being Grade 1).

Oakendene

14.1.5 The Interested Party notes that loss of agricultural land has been scoped out during the operational phase, including at the onshore substation at Oakendene. The reason for this is that the loss of agricultural land due to the construction of permanent infrastructure for Rampion 2 is considered as a construction phase effect, and there is no further loss of agricultural land during the operational phase.

14.1.6 The assessment of the permanent loss or sealing of soil / agricultural land due to permanent development at the onshore substation is presented in paragraphs 20.9.27 to 20.9.31 of **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**. In the assessment, it is acknowledged that the worst- case effect of the Rampion 2 at the onshore substation site at Oakendene is the permanent loss of a maximum area of agricultural land of 6.0 hectares (ha) for the onshore substation, loss of a maximum of 0.22 ha for the onshore substation permanent access and the loss of a maximum of 5.8 ha for the onshore substation drainage and landscaping, which is a combined area of 12.02 ha. It is acknowledged in the assessment that the agricultural land and soil biomass (crop growing) function will be permanently lost due to the onshore substation, permanent access and landscaping. This land is accounted for in the figure of 16.21 ha of permanent agricultural land loss, stated in paragraph 20.9.30 of **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**. However, within the landscaping area, soil will be retained and there may be a longer-term improvement to soil health and other soil functions, such as carbon storage, over time, due to less disturbance of topsoils occurring than in an agricultural land use.

14.1.7 The potential effects of Rampion 2 on soils and agricultural land at the temporary compound Oakendene West, west of the proposed onshore substation site, are assessed in paragraphs 20.9.1 to 20.9.26 **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**. This assessment considers that a maximum area of 5.0 ha of land will be affected at the Oakendene West compound. The assessment considers: potential for damage to soil structure during handling and storage; soil erosion during soil storage or from soils where vegetation is stripped; topsoil degradation due to mixing of topsoil with subsoil or other material (non-soil); damage to existing land drainage systems resulting in changes to soil structure through ponding and water-logging of previously well-drained land; and, degradation of ALC grade due to soils being damaged during temporary construction work.

14.1.8 To mitigate the risk of damage to soils and degradation of agricultural land due to the effects described in the paragraph above, and **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**, the Applicant has engaged qualified soil scientists and agricultural land specialists to complete the ALC survey and to produce the Outline SMP (**Outline Soils Management Plan [APP-226]**). Full ALC survey coverage will be completed as outlined above, and updates of the Outline SMP to Stage Specific SMPs will be made as outlined above.

14.1.9 It is recognised in paragraphs 20.8.10 and 20.8.11 of **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**, that despite these mitigation measures, soils are vulnerable to damage during construction work. The Outline SMP (**Outline Soils Management Plan [APP-226]**) therefore also sets out

measures to manage the effectiveness of the soil handling measures by including monitoring and, if necessary, remedial measures.

14.1.10 For the Applicant's response in relation to the discounting of the Wineham Lane North site for the onshore substation please see **Section 3** Alternatives above.

Crateman's Farm

14.1.11 The cable route passes through Crateman's Farm and the Applicant notes that due to design change, only part of the land has had ALC survey completed to date. The Applicant is committed to surveying all agricultural land where soil disturbance will take place as a result of Rampion 2.

14.1.12 The Interested Party refers to the potential for effects on protected / sensitive flora and fauna at Crateman's Farm, for the Applicant's response to this, please see the response in **Section 9** above.

14.1.13 Regarding the specific soil resources at Crateman's Farm, most of the soil disturbed during the construction of Rampion 2 can be reinstated to restore the land to its original use / habitat type, as is the case at Crateman's Farm. To support this, the Applicant is committed to developing a Soil Resource Plan during pre-construction, once ALC surveys are complete. The Soil Resource Plan will include:

- maps showing topsoil and subsoil types, and the areas to be stripped and left in-situ;
- schedules of volumes for each material;
- the expected after-use for each soil whether topsoil to be used on site, used or sold off site, or subsoil to be retained for landscape areas, used as structural fill or for topsoil manufacture; and
- identification of the person responsible for supervising soil management.

14.2 Risks and mitigations

14.2.1 Most of the land within the proposed DCO Order Limits for Rampion 2 that has not had ALC survey is within the former South Downs Training Area (SDTA), much of which is within the South Downs National Park (SDNP), where there is a moderate or higher risk of unexploded ordnance being encountered. As the ALC survey is an intrusive survey, specific mitigation measures are needed, as advised by unexploded ordnance (UXO) specialists, on a phased basis, before intrusive survey work can take place. The Applicant is committed to undertaking these measures to enable ALC survey to be completed during the pre-construction phase of Rampion 2.

14.2.2 Regarding the protection of watercourses from silty run-off from stripped soils or stockpiled soils, including compaction of soils and subsequent erosion of soils, embedded measures are detailed in Table 20-17 of **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]** to avoid damage to soils and avoid compromising the existing land drainage regime (C-12, C-13, C-28 and C-120)

and taking into consideration flood risk (C-129, C-132 and C-133) as detailed in the **Commitments Register** **[REP1-015]**.

14.2.3 The Applicant is committed to the removal of temporary access tracks and hardstanding. The Outline SMP (**Outline Soils Management Plan** **[APP-226]** paragraph 5.2.22 states that:

"*Temporary access tracks and hardstanding will be removed as early as practicable when they are no longer required. All imported materials (aggregate, geotextile matting etc.) will be removed under dry conditions by an excavator/dumper operating on the track surface to avoid soil compaction. Following removal of the hardstanding and associated materials, upper subsoils should be cross-ripped to a depth of approximately 300mm before topsoil is replaced, in order to ensure any minor compaction is thoroughly removed. Topsoil in these areas will be replaced using the excavator and dumper method previously described. Land will be cultivated and seeded to grass as soon as practical*."

15. Onshore substation design and access

15.1 Site access

15.1.1 As discussed by the interested party, access to the onshore substation site is taken only from the north, on the A272. Access A-63 is to be used both as a temporary construction access, and as a permanent operational access. Given the differing levels of usage, it is possible that this junction may be reformed after its construction use. However, all such details will be approved by the local highway authority following detailed design and independent safety audits.

15.1.2 The access A-61 on Kent Street is for the onshore cable route. The retained vegetation around the watercourse at the southern edge of the substation site means that there is no access between these fields. After use as a construction access, the junction will be returned to its former state, which will be sufficient for occasional maintenance visits to the cable. There is no proposal for a permanent road south of the substation.

15.2 High voltage cable

15.2.1 The UKPN 132kV cable is a known technical constraint of this site. The power to alter existing apparatus, including cables, is included in the **Draft Development Consent Order [PEPD-009]** as 'further works' within Schedule 1 Part 1.

15.2.2 While the existing UKON 132kV cable is oil insulated, the proposed Rampion 2 export cables are not.

15.3 Environmental aspects

15.3.1 Please see the technical sections in this document regarding concerns raised in relation to landscape and visual (**Section 6**), noise and vibration (**Section 8**), ecology (**Section 9**), heritage (**Section 11**), water environment (**Section 12**), and soils (**Section 14**). Further to this, the Applicant has provided the methodology for baseline data gathering, the baseline conditions, and the embedded environmental measures considered and assessed to understand the likely significant effects of the Proposed Development within the Environmental Statement (see **Volume 2** of the ES **[APP-047 to APP-070]**).

15.4 Battery storage proposal

15.4.1 The Applicant is aware of a proposal for a battery storage facility on Kent Street, which has sought a screening opinion from Horsham District Council. The proposed access road would cross the alignment of the Rampion 2 export cable. There is no electrical connection between the two projects as suggested by the interested party. As would be expected, the Applicant has met with the developers

of this project, as well as with promoters of two further projects off Wineham Lane, to deconflict the proposals.

15.4.2 The assessment in the ES examines the cumulative effects of Rampion 2 in combination with other developments that have been substantially progressed in the planning system prior to the submission of the DCO Application. A cumulative effects assessment (CEA) examines the combined impacts of Rampion 2 in combination with other developments on the same single receptor or resource and the contribution of Rampion 2 to those impacts. The approach to the assessment of cumulative effects is set out in **Chapter 5: Approach to the EIA, Volume 2** of the of the ES **[APP046]** and **Appendix 5.4: Cumulative effects assessment detailed onshore search and screening criteria, Volume 4** of the ES **[APP-128]**). Each ES chapter contains a shortlist specific to that assessment, using a ZOI relevant to the receptors and pathways considered. With the exception of onshore landscape and visual resource (see Section 18.14 **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**) there are no additional significant effects, or effects elevated to a significant level, that would not be apparent in the assessment of the Proposed Development alone.

15.4.3 Table 18-39 of **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** states that during construction the Proposed Development in combination with the energy related applications in the near proximity to the existing National Grid Bolney Substation will intensify effects on landscape character in the Eastern Low Weald. Cumulative effects (additional and combined) resulting from the onshore elements of the Proposed Development would range from Major to Moderate and would result in a significant cumulative effect. However, during the operational stage, cumulative effects resulting from the onshore elements of the Proposed Development would be Minor to Negligible and therefore would not result in a significant cumulative effect. This is because they are positioned ‘centrally and within’ landscape that is already affected by the National Grid Bolney substation with other development located closer to visual receptors viewing from the perimeter of this area.

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Rampion 2
WIND FARM

Appendix B
Applicant's Response to Middleton on Sea Coastal Alliance's Written Representations [REP1-134]

Rampion 2 WIND FARM

Rampion 2 Wind Farm

Appendix B: Applicant's Response to Middleton on Sea Coastal Alliance's Written Representation [RR-249]

Date: March 2024

Contents

Executive Summary

At Deadline 1 of the Examination for Rampion 2 Offshore Wind Farm Project, Interested Parties were invited to submit Written Representations and Post-hearing submissions following Issue Specific Hearing 1 (held 07 to 08 February 2024) into the examination. A total of 8 Written Representations were received from Non-prescribed bodies.

Rampion Extension Development Limited (the 'Applicant') has taken the opportunity to review each of the Written Representations received from Non-prescribed bodies, this document provides the Applicant's responses and has been submitted for Examination Deadline 2.

1. Introduction

1.1 Project Overview

1.1.1 Rampion Extension Development Limited (hereafter referred to as 'RED') (the 'Applicant') is developing the Rampion 2 Offshore Wind Farm Project ('Rampion 2') located adjacent to the existing Rampion Offshore Wind Farm Project ('Rampion 1') in the English Channel.

1.1.2 Rampion 2 will be located between 13km and 26km from the Sussex Coast in the English Channel and the offshore array area will occupy an area of approximately 160km^2. A detailed description of the Proposed Development is set out in **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]**, submitted with the Development Consent Order (DCO) Application.

1.2 Purpose of this document

1.2.1 Interested Parties were invited to submit Local Impact Reports, Written Representations, and Post-hearing submissions at Deadline 1 (28 February 2024) following Issue Specific Hearing 1 (held 07 to 08 February 2024) to provided further information and to expand on views provided in Relevant Representations previously submitted in accordance with the Examination timetable in the Rule 8 letter **[PD-007]**. Please see below for a summary of the submissions received at Deadline 1, as categorised by the Planning Inspectorate:

- 6 submissions from Local Planning Authorities;
- 5 submissions from parish and towns councils and Members of Parliament;
- 6 representations from prescribed consultees;
- 28 representations from and on behalf of Affected Parties;
- 44 representations from members of the public or businesses; and
- 8 representations from non-prescribed organisations.

1.2.2 The Applicant has taken the opportunity to review each of the Local Impact Reports, Written Representations, and Post-hearing submissions received. This document provides the Applicant's responses to Middleton on Sea Coastal Alliance (Non-prescribed organisation) and has been submitted for Examination Deadline 2.

1.3 Structure of the Applicant's Responses

1.3.1 For ease of referencing and to facilitate future cross-referencing, the Applicant has included references for the Applicant's responses to the Local Impact Reports, Written Representations, and Post-hearing submissions received from other Interested Parties, as follows:

- Local Authorities (including both host and neighbouring authorities):

- Arun District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.44**));
- Brighton and Hove City Council (**Applicant's Responses to Brighton and Hove City Council Deadline 1 Submissions** (**Document Reference: 8.48**));
- Horsham District Council (**Applicant's Responses to Horsham District Council Deadline 1 Submissions** (**Document Reference: 8.45**));
- Mid Sussex District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.46**));
- South Downs National Park Authority (**Applicant's Responses to South Downs National Park Authority Deadline 1 Submissions** (**Document Reference: 8.47**)); and
- West Sussex County Council (**Applicant's Responses to West Sussex County Council Deadline 1 Submissions** (**Document Reference: 8.43**)).

- Parish Councils and Members of Parliament (**Applicant's Responses to Parish Councils and MP's Written Representations** (**Document Reference: 8.37**));
- Prescribed Consultees (as set out in Schedule 1 of the Infrastructure Planning (Application: Prescribed Forms and Procedures) Regulations 2010, noting that Parish Councils are also Prescribed Consultees) (**Applicant's Responses to Prescribed Consultee's Written Representations** **(Document Reference: 8.49)**);
- Affected Parties (Category 1, 2 and 3 Land Interests as identified in the **Book of Reference** **[PEPD-014]**) (**Applicant's Responses to Affected Parties' Written Representations** (**Document Reference: 8.51**));
- Members of the Public and Businesses (**Applicant's Responses to Members of the Public and Businesses' Written Representations** (**Document Reference: 8.52**)); and
- Non-Prescribed Consultees (this document: **Applicant's Responses to Non-Prescribed Consultee's Written Representations** (**Document Reference: 8.53**)).

1.3.2 The Applicant has reviewed the Written Representation (and 'Impact Statement') submitted by Middleton on Sea Coastal Alliance and has provided a response to each section below. An overarching response has been provided to the key themes raised in the Introduction and Executive Summary section of the Middleton on Sea Coastal Alliance Impact Statement in this section of the Applicant's response.

2. Visual Impact

2.1 Introduction

2.1.1 National Policy Statement (NPS) EN-1 (Department of Energy and Climate Change (DECC), 2011a), extant at the time of submission of the Rampion 2 Development Consent Order (DCO) Application and against which it will be tested, outlines that there is an urgent need for new renewable electricity projects. It is notable that the Proposed Development type (offshore wind) is recognised as being a critical national priority (CNP) in the revised NPS EN-1 and NPS EN-3 (Department for Energy Security and Net Zero (DESNZ), 2023a; 2023b), which came into force in January 2024, for which there is an urgent need to deliver. The Proposed Development 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.

2.1.2 If consented, the Applicant will be placing turbine orders a decade after Rampion 1, with turbines not being installed until 2027 or 2028 at the earliest. Technology has significantly advanced since Rampion 1, so a sensible projection has been made using intelligence from turbine manufacturers of what the available turbine technology is likely to be several years from now. This avoids the risk of consenting a technology that might no longer be available in the marketplace, while ensuring the turbines offer the best solution to tackle climate change and the best value to the consumer.

2.1.3 The seascape and visual impacts of the Proposed Development Wind Turbine Generators (WTGs) are assessed in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the Environment Statement (ES) **[APP-056]**. The Applicant notes that significant effects on views experienced by people living, working, and visiting West Sussex have been identified at a number of representative viewpoints along the West Sussex coastline. The spatial extent of the Proposed Development array area has been reduced and designed according to a set of seascape, landscape and visual impact assessment (SLVIA) specific design principles (Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**) which reduce the magnitude of effects and minimise harm on the perceived seascape qualities and views, focusing particularly on the South Downs National Park (SDNP). Opportunities to reduce effects through further design principles specific to West Sussex are limited by the technical, economic and functional requirements of the Project to produce renewable energy, as well as other environmental factors. The Applicant has produced and submitted a Seascape, Landscape and Visual Design Principles Clarification Note at Deadline 1 (**SLVIA Maximum Design Scenario and Visual Design Principles Clarification Note [REP1-037]**), which provides further commentary on these SLVIA specific design principles.

2.2 A – Impact on Seascape Character and Open Ocean

2.2.1 Assessment of the effects arising from the offshore elements of Rampion 2 on seascape, landscape and visual receptors is undertaken in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**. The SLVIA has been undertaken in accordance with the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and IEMA, 2013), and other best practice guidance, as detailed within the chapter. The methodology used to determine the effects of the Proposed Development on seascape, landscape and visual receptors is set out in **Appendix 15.2: Seascape, landscape and visual impact assessment methodology**, **Volume 4** of the ES **[APP-158]**.

2.2.2 The seascape, landscape and visual effects (and whether they are significant) is determined by an assessment of the 'sensitivity' of each receptor or group of receptors and the 'magnitude of change' that would result from Rampion 2. The evaluation of sensitivity takes account of the value of the receptor and susceptibility of the receptor to the 'specific nature of the proposed development' (Landscape Institute and IEMA, 2013) i.e. the offshore elements of Rampion 2. This is combined with an assessment of the magnitude of change which takes account of the size and scale of the proposed change. By combining assessments of sensitivity and magnitude of change, a level of seascape, landscape or visual effect can be evaluated and determined. The resulting level of effect is described in terms of whether it is significant or not significant, and the geographical extent, duration and the type of effect is described as either direct or indirect; temporary or permanent (reversible); cumulative; and beneficial, neutral or adverse.

2.2.3 The effects of the offshore elements of Rampion 2 on seascape character and views experienced by people in West Sussex are summarised in paragraphs 15.15.41 to 15.15.52 of the conclusions of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**. This assessment recognises the changes to seascape character of the Selsey Bill to Seaford Head MCA that will be experienced from the South Coast Shoreline Landscape Character Area (LCA) (SC1) and the significant effects on views experienced by people along this West Sussex coastline identified at a number of representative viewpoints from the settlements and seafronts along this section of the West Sussex coastline between Lancing in the east to Selsey in the west.

2.2.4 The Applicant notes that West Sussex County Council recognises that there has been an evolution in the offshore design and a reduction in the spatial extent of the proposed DCO Order Limits (array area) since the statutory consultation, which is embedded within the Proposed Development through the proposed DCO Order Limits and Works Areas shown on the **Offshore Works Plans [PEPD-004]** and Works Area Descriptions provided in full in Schedule 1 of the **Draft Development Consent Order [PEPD-009]**. The Applicant notes a reduction in the western extent of the proposed DCO Order Limits, compared to the Preliminary Environmental Information Report (PEIR) Assessment Boundary, illustrated in Figure 3.3 in **Chapter 3: Alternatives – Figures, Volume 3** of the ES **[APP-075]** which resulted in some reduction in the western lateral spread of WTGs. The wind farm separation zone to the west of Rampion 1 (**Offshore Works Plans [PEPD-004]**) also provides some separation between the arrays in certain views from West Sussex. Together with the reduction in the eastern spatial extent of the

proposed DCO Order Limits and a reduction in number of WTGs, the Applicant considers that there has been some reduction in effect on West Sussex receptors however it accepts that these design changes made to the proposed DCO Order Limits (array area) have not avoided significant effects arising on receptors in West Sussex.

2.3 B – Balance between Beneficial and Adverse Impacts on Local Communities

2.3.1 The Applicant notes that significant effects on views experienced by people living, working, and visiting West Sussex have been identified at a number of representative viewpoints along the West Sussex coastline. Although these effects are identified as significant and long-term, the Applicant considers that effects are reversible and that views experienced by residents and visitors will be not 'irrevocably changed'. At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed will be completely removed. The Energy Act (2004) requires that a decommissioning plan must be submitted to and approved by the relevant Secretary of State. It is intended that the entire wind turbine structure is fully removed from site in its main constituent parts of rotor assembly, nacelle and tower before being disassembled fully onshore.

2.3.2 The Applicant notes that the beneficial and adverse effects of the Proposed Development on local communities will require to be considered when considering all matters in the round. This includes the substantial benefits of the Proposed Development scheme in terms of both the scale and the national need for the urgently required renewable energy that the Proposed Development would provide, but also in terms of local socio-economic benefits, and the degree to which these are sufficient to outweigh the adverse impacts, such as impacts on seascape and visual amenity. As recognised in National Planning Policy in NPS EN-1 (DECC, 2011a) paragraph 5.9.8 *"virtually all nationally significant energy infrastructure projects will have effects on the landscape"* and 5.9.13 *"the fact that a proposed project will be visible from a designated area should not in itself be a reason for refusing consent"*. The Applicant has had regard to the siting, operational and other relevant constraints with the aim of minimising harm to the landscape and has proposed reasonable and appropriate mitigation.

2.3.3 The Environmental Statement ES also includes a series of chapters that address the potential effects for local communities including amenity, quality of life, and disruption. Wherever practicable, likely adverse effects have been avoided or minimised through embedded environmental measures in the design of the Proposed Development, taking into account the findings of the ES, consultation with stakeholders and national and local policy requirements.

2.3.4 **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]** assessed the potential impacts for population and human health. The assessment concluded that the magnitude of impact on human health from potential changes to air quality, noise and vibration exposure, transport nature and flow rate, visual amenity, land contamination, access to opportunities for physical activity, socio-economic factors, and electromagnetic fields as a result of the Proposed Development is negligible, which is not significant in EIA terms.

2.3.5 The assessment within **Chapter 7: Other marine users, Volume 2** of the ES **[APP-048]** and **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** considers the impact on other marine users and socio-economics experienced as a result of Rampion 2 and concludes that the Proposed Development will provide positive benefits for the local and national economy (although not significant in EIA terms) whilst there will be negligible impacts on the visitor economy.

2.3.6 A number of management plans **[APP-223** to **APP-242]** have been included in the DCO Application such as the **Outline Code of Construction Practice (CoCP) [PEPD-033]** and **Outline Public Rights of Way Management Plan [APP-230]**, which has been developed alongside the EIA process and provide the details of the proposed embedded environmental measures to manage effects during the construction stage. This includes measures that will be implemented to ensure minimal disruption to the local community, such as commitments C-22 (working hours), C-32 (crossing schedule), and C-105 (site lighting). The Applicant highlights that these commitments are secured via requirement 22 and 20 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2).

2.3.7 Further to this, the Applicant has developed an updated **Outline Skills and Employment Strategy [PEPD-037]** at the Pre-Examination Procedural Deadline (16 January 2024) and secured through requirement 33 of the **Draft Development Consent Order [PEPD-009]** (updated at Deadline 2). The strategy sets out the approach that will be adopted by the Applicant, with the aim of promoting skills and employment opportunities for local economic benefit within the Sussex area. Based on engagement undertaken to date, a key ambition of the Applicant is to focus on providing sustainable careers, rather than just jobs.

2.3.8 Additionally, Rampion 2 will be a permanent neighbour in the Sussex community and the Applicant intends to develop and implement a community benefits package of proposals. In the second half of 2024, the Applicant will therefore be consulting key stakeholders and local communities on how a community benefit package could best support Sussex communities. The final package may include a range of initiatives to benefit business, education, and residential communities and this outside of the DCO consenting process.

2.4 C - Visual Disruption of Rampion 1 and Rampion 2 together

2.4.1 Although the Rampion 2 WTGs will be viewed as being larger in scale than the operational Rampion 1 WTGS, following the introduction of embedded design principles between the first statutory consultation in 2021 (published in the Preliminary Environmental Information Report (PEIR)) and DCO Application in 2023, there is now a better balance in apparent scale of the Rampion 1 and Rampion 2 WTGs, with stark scale comparisons minimised by siting Rampion 2 WTGs further offshore, introducing wind farm separation zones and avoiding the seascape immediately to the east of Rampion 1. A number of measures are embedded as part of the Rampion 2 design to avoid, minimise or reduce any significant environmental effects on seascape, landscape and visual receptors, as far as possible, a relevant example being the Windfarm Separation Zones (areas between Rampion 1 and Rampion 2 where it is not permitted to build turbines) shown on the **Offshore Works Plans [PEPD-004]**.

2.4.2 The influence of the 'separation foreground' design principle is discussed further in paragraphs 15.7.47 to 15.7.52 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** with further commentary provided in the Applicant's Deadline 1 Submission – 8.35 **SLVIA Maximum Design Scenario and Visual Design Principles Clarification Note** **[REP1-037]**.

2.4.3 The Applicant notes that the Rampion 1 turbines (140 m to blade tip) are substantially smaller than the maximum height Rampion 2 WTGs proposed (325m to blade tip), and that where they are seen in conjunction, the difference in size will be notable to viewers particularly from the range of inland vantage points along the open tops of the downs, however it is considered that this scale difference appears less notable and more balanced in key views from the Heritage Coast of the SDNP due to the design principles embedded with the Project.

2.4.4 These design measures have reduced effects on views from the Heritage Coast in particular, but also from wider parts of the SDNP, in particularly reducing the field of view occupied by Rampion 2, reducing its proximity (increasing its distance) and providing separation with Rampion 1 such that the arrays are viewed with less contrasts in scale and as distinct elements from the Heritage Coast.

2.4.5 The Applicant reiterates, as noted above, that NPS EN-1 and EN-3 (2011 and 2023) recognise that "Virtually all nationally significant energy infrastructure projects will have effects on the landscape."

2.4.6 Opportunities to reduce effects through turbine height reduction are limited due to the technical and economic requirements associated with producing renewable energy as well as other environmental factors. For the reasons stated above the need to retain flexibility of WTG numbers, size and location within the Rampion 2 array area through the planning stages and assessment of a Maximum Design Scenario is necessary.

2.4.7 The EIA submitted in the Environmental Statement for Rampion 2 is based on parameters for the Rampion 2 development. As Wind Turbine Generator (WTG) technology is continually evolving, it is difficult to definitively predict the generating capacity and size of WTG that will be commercially available at the point of procurement for construction. As such, the size and capacity of the WTGs for the Proposed Development will be determined during the final design stage prior to construction. The final turbine design will be selected in accordance with the parameters set out in the DCO. The maximum design scenario for the WTG is described in **Chapter 4: The Proposed Development, Volumes 2** of the ES **[APP-045]**. The Applicant is seeking consent using a 'Rochdale envelope' approach, constrained by worst case parameters. These are described in Section 4.5 of **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**.

2.5 D - Therapeutic Value of the Seaside

2.5.1 The effect of the Proposed Development on tranquillity experienced within the SDNP is assessed in Table 15.32 of **Chapter 15: Seascape, landscape and Visual Impact Assessment, Volume 2** of the ES **[APP-056]** as part of Special Quality 3 of the SDNP 'Tranquil and unspoilt places'. Further consideration of the effects of the Project on tranquillity is also provided in the **Deadline 1 Submission - Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix**

5 - Further Information for Action Point 27 South Downs National Park [REP1-024].

2.5.2 The Applicant notes that design changes introduced following the Section 42 consultation have reduced the adverse effects of the scheme on the Sussex Heritage Coast of the SDNP, from where tranquillity associated with the seascape is experienced. 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. The Applicant's assessment in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** is that these design changes have led to tangible reductions in the significance of effects arising from Rampion 2 on views and special qualities of the SDNP, including the perceived tranquillity experienced from the Sussex Heritage Coast area of the SDNP.

3. Lack of Animated Visuals

3.1 Consultation process

3.1.1 The project has been subject of multiple rounds of iterative consultation with local people and environmental authorities. This process, and evidence of the way in which the Applicant has had regard to consultation responses, is set out in the **Consultation Report** **[APP-027]**.

3.1.2 The Applicant's approach to stakeholder engagement (including consultation) is based on principles of best practice. The Applicant aimed to build trust and respect with stakeholders and always follow an open and transparent approach. This included consultation with consultees under sections 42, 47 and 48 of the Planning Act 2008.

3.1.3 The Applicant undertook a range of Statutory and non-statutory consultations including both in-person events and online consultations in which it engaged with the wider public as set out in the **Consultation Report** **[APP-027]**. The statutory and non-statutory consultations included visualisations of the Proposed Development, in order to allow the public to understand its appearance and visual impacts from the initial early design and throughout the design evolution. The consultation procedure undertaken by the Applicant for Rampion 2 has met the requirements for consultation that are specified in the Planning Act 2008 as confirmed by the acceptance of the DCO Application. Further information on the consultation undertaken by the Applicant can be found in the **Consultation Report** **[APP-027]**.

3.2 Seascape images and photomontages

3.2.1 The Rampion 2 PEIR (Rampion Extension Development Limited (RED), 2021) has been superseded by the **Environmental Statement** which was submitted with the Proposed Development application in August 2023.

3.2.2 Photomontage visualisations providing realistic representations of the views from 54 viewpoints across the SLVIA Study Area have been submitted in **Environmental Statement - Volume 3 Chapter 15 Seascape, landscape and visual impact assessment - Figures (Part 4, 5, 6, 7 and 8)** **[APP-091, APP-092, APP-093, APP-094** and **APP-095]**.

3.2.3 Photomontages in relation to seascape, landscape and visual impact assessment have been produced in line with best practice guidance within Technical Guidance Note 06/19 Visual Representation of development proposals (Landscape Institute, 2019) and Visual Representation of Wind Farms Guidance (NatureScot, 2017). These photomontage visualisation-related materials included within an Environmental Statement (ES) are recommended for public viewing and to inform decision making. The Applicant notes that other methods of visualisation using computer animation and video montage may be helpful to illustrate the effects, in some situations adding value to the decision-making process, however "*the outputs are difficult to verify*" and "*these methods are not currently considered*

appropriate as a replacement for the photomontage visualisations included in an Environmental Statement" (NatureScot, 2017). Furthermore, the Applicant notes guidance on this matter provided by the Landscape Institute, which states that *"Emerging visualisation technologies such as Augmented Reality (AR) and Virtual Reality (VR) currently require specialist skills and technology / software and may have significant cost implications and may, therefore, be beyond the scope of many landscape professionals, their clients and competent authorities"* (Landscape Institute, 2019).

3.2.4 Information on the limitations of the photomontage visualisations is provided in **Appendix 15.2: Seascape, landscape and visual impact assessment methodology [APP-158]**. In particular, the Applicant would highlight that there are practical limitations to shooting viewpoint photographs and those shown in the visualisations show the most favourable weather conditions available during photographic survey work, which was particularly extensive for the Project and required photography to be undertaken from 54 viewpoints for the SLVIA across a wide geographic study area. Furthermore, the majority of viewpoints for the SLVIA of the offshore elements of Rampion 2 are south facing, the sun is inevitably captured in some part of the southerly view panorama, which can make photography challenging, yet is illustrative of typical viewing conditions 'into the sun' in south facing views. The Applicant considers that the wide range of viewpoints provided and standard of the visualisations accords with guidance (Landscape Institute, 2019) and allows a clear understanding of the visual impacts of the Proposed Development.

3.2.5 The Applicant notes that in their S42 consultation response, as recorded in Table 15-7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** West Sussex County Council stated *"The provided photomontages are useful tools that aid in the assessment of visual effects. They clearly show the significance of impacts likely to be experienced by receptors in West Sussex, in particular, the impacts that would result from the lengthy westerly extension, which would significantly extend the field of view over which impacts on seascape would be experienced."*

3.2.6 The Applicant would note that additional summer viewpoint photography was also completed for the viewpoints below, the location in the **Environmental Statement** is included for each viewpoint:

- Viewpoint 33 Arundel Castle - Figure 15.56a-e **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 4 [APP-094];**
- Viewpoint 51 Ditchling Beacon - Figure 15.64a-b **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 4 [APP-094];**
- Viewpoint 52 Chanctonbury Ring; Figure 15.65a-h **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 4 [APP-094];**
- Viewpoint 55 Beeding Hill - Figure 15.68a-b **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 4 [APP-094];**

- Viewpoint 30: Halnaker Hill - Figure 15.53a-b C**hapter 15: Seascape, landscape and visual impact assessment - Figures (Part 6 of 8), Volume 4 [APP-093];**
- Viewpoint 32: Levin Down - Figure 15.55a-b **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 4 [APP-094];** and
- Viewpoint 41: Slindon Folly - Figure 15.60a-b **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 4 [APP-094]**.

3.2.7 The Applicant considers that it has provided accurate and representative visual representations to enable both residents and the Examining Authority to evaluate the impact of the offshore elements of Rampion 2. The Applicant would note that the visual effect of the Proposed Development is best appreciated during field evaluation at the viewpoints with reference to the material provided in **Environmental Statement - Volume 3 Chapter 15 Seascape, landscape and visual impact assessment - Figures (Part 4, 5, 6, 7 and 8) [APP-091, APP-092, APP-093, APP-094** and **APP-095]**. If viewed correctly at the correct printed image size, at the actual viewpoint location in the field, these provide a close representation of the vertical scale and horizontal extent of WTGs viewed from the actual viewpoints.

3.3 Aviation and Night-time Lighting

3.3.1 The assessment of aviation and navigation night-time lighting is undertaken within **Appendix 15.5: Assessment of aviation and navigation night-time lighting, Volume 4** of the ES **[APP-161]** and this assessment includes consideration of effects of night-time lighting on the South Downs International Dark Sky Reserve (IDSR) and urban areas outside the IDSR. Night-time photomontage visualisations showing the effect of the aviation and marine navigational lighting are provided from a number of viewpoints in the **Environment Statement**:

- Viewpoint 2 Birling Gap (**Figure 15.27g-h**) **[APP-091]**;
- Viewpoint 17 Devil's Dyke (**Figure 15.42j-m**) **[APP-092]**;
- Viewpoint 21 Bignor Hill (**Figure 15.46g-h**) **[APP-093]**;
- Viewpoint 27 Hollingbury Hill Fort (**Figure 15.50g-h**) **[APP-093]**; and
- Viewpoint 31 Butser Hill Nature Reserve (**Figure 15.54f-g**) **[APP-093]**.

3.3.2 An additional night-time viewpoint photograph was undertaken within the core area of the South Downs IDSR at Viewpoint 21 Bignor Hill (**Figure 15.46g-h**) **[APP-093]** (Dark Skies Discover Site 5) for the **Environmental Statement** as agreed with the South Downs National Park Authority (SDNPA). The Applicant does, however, acknowledge the ES omission of night-time visualisations and assessment of night-time effects from the agreed additional two viewpoints from urban areas outside the IDSR. The Applicant has therefore provided a **Supporting Study Appendix 15.6: Supplementary Night-Time Viewpoint Assessment, Volume 4** of the ES **[PEPD-024]** (submitted at the Pre examination Procedural Deadline on 16 January 2024). This provides a further assessment of the visual

effects of night-time aviation and marine navigation lighting from the agreed viewpoints at Brighton sea front (Viewpoint 8), Worthing (Viewpoint 10) and Pagham (Viewpoint 13) outside the IDSR, which is supported with night-time photomontage visualisations from these locations. No night-time significant effects are predicted to occur in these urban areas.

4. E - Ecological Impacts

4.1.1 The environmental effects to fish and shellfish, marine mammals, and migrating birds are assessed in **Chapter 8: Fish and shellfish ecology, Volume 2** of the ES **[APP-049]**, **Chapter 11: Marine mammals, Volume 2** of the ES **[REP1-004]** and **Chapter 12: Offshore and intertidal ornithology, Volume 2** of the ES **[APP-053]** and no significant effects are predicted to occur.

4.1.2 **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]** and **Appendix 28.1: Human health baseline, Volume 4** of the ES **[APP-219]** assess the potential effects for population and human health. The assessment concluded that the magnitude of impact on human health from potential changes to air quality, noise and vibration exposure, transport nature and flow rate, visual amenity, access to opportunities for physical activity, and socio-economic factors, as a result of the Proposed Development is negligible, which is not significant in EIA terms.

5. OESEA Visual Buffer Compliance

5.1.1 There have been three versions of the Offshore Energy Strategic Environmental Assessment (OESEA), since 2009. None have proposed any form of exclusion zone for nearshore wind farms such as Rampion or Rampion 2. Furthermore, the Government was clear, in its responses after consultation on OESEA3, that it did not intend to even imply a notional exclusion zone.

5.1.2 OESEA4 (Department for Business, Energy & Industrial Strategy, 2022) (Appendix 2) 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)”.

5.1.3 The OESEA (Department for Business, Energy & Industrial Strategy, 2022) therefore does not suggest no-go areas for development, it is a strategic tool and not intended as guidance or a roadmap for the siting of offshore 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]**, the findings of which 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]**.

5.1.4 In respect of the SDNP and the Sussex Heritage Coast, the White 2020 report (White Consultants, March 2020) recommends a distance buffer of 40 km for 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 not significant). Rampion 2 cannot 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 the more distant areas of the SDNP fall into the low magnitude (35 – 44 km) category. **Chapter 15: Seascape, landscape and Visual Impact Assessment, Volume 2 of the ES** [**APP-056**] and the White 2020 Report (White Consultants, March 2020) would therefore align that based on distance, the magnitude of change would not be ‘high’ from the Heritage Coast or the wider open downs of the SDNP to the north.

6. References

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Appendix C
Applicant's Response to Protect Coastal Sussex's Written Representations [REP1-145]

Rampion 2 Wind Farm

Appendix C
Applicant's Response to Protect Coastal Sussex's Written Representations [REP1-144]

Date: March 2024

Document revisions

Revision	Date	Status/reason for issue	Author	Checked by	Approved by
A	20/03/2024	Final for Deadline 2	WSP	RED	RED

Contents

Executive Summary

At Deadline 1 of the Examination for Rampion 2 Offshore Wind Farm Project, Interested Parties were invited to submit Written Representations and Post-hearing submissions following Issue Specific Hearing 1 (held 07 to 08 February 2024) into the examination. A total of 8 Written Representations were received from Non-prescribed bodies.

Rampion Extension Development Limited (the 'Applicant') has taken the opportunity to review each of the Written Representations received from Non-prescribed bodies, this document provides the Applicant's responses and has been submitted for Examination Deadline 2.

1. Introduction

1.1 Project Overview

1.1.1 Rampion Extension Development Limited (hereafter referred to as 'RED') (the 'Applicant') is developing the Rampion 2 Offshore Wind Farm Project ('Rampion 2') located adjacent to the existing Rampion Offshore Wind Farm Project ('Rampion 1') in the English Channel.

1.1.2 Rampion 2 will be located between 13km and 26km from the Sussex Coast in the English Channel and the offshore array area will occupy an area of approximately 160km^2. A detailed description of the Proposed Development is set out in **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) **[APP-045]**, submitted with the Development Consent Order (DCO) Application.

1.2 Purpose of this document

1.2.1 Interested Parties were invited to submit Local Impact Reports, Written Representations, and Post-hearing submissions at Deadline 1 (28 February 2024) following Issue Specific Hearing 1 (held 07 to 08 February 2024) to provided further information and to expand on views provided in Relevant Representations previously submitted in accordance with the Examination timetable in the Rule 8 letter **[PD-007]**. Please see below for a summary of the submissions received at Deadline 1, as categorised by the Planning Inspectorate:

- 6 submissions from Local Planning Authorities;
- 5 submissions from parish and towns councils and Members of Parliament;
- 6 representations from prescribed consultees;
- 28 representations from and on behalf of Affected Parties;
- 44 representations from members of the public or businesses; and
- 8 representations from non-prescribed organisations.

1.2.2 The Applicant has taken the opportunity to review each of the Local Impact Reports, Written Representations, and Post-hearing submissions received. This document provides the Applicant's responses to Protect Coastal Sussex (Non-prescribed organisation) and has been submitted for Examination Deadline 2.

1.3 Structure of the Applicant's Responses

1.3.1 For ease of referencing and to facilitate future cross-referencing, the Applicant has included references for the Applicant's responses to the Local Impact Reports, Written Representations, and Post-hearing submissions received from other Interested Parties, as follows:

- Local Authorities (including both host and neighbouring authorities):

- Arun District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.44**));
- Brighton and Hove City Council (**Applicant's Responses to Brighton and Hove City Council Deadline 1 Submissions** (**Document Reference: 8.48**));
- Horsham District Council (**Applicant's Responses to Horsham District Council Deadline 1 Submissions** (**Document Reference: 8.45**));
- Mid Sussex District Council (**Applicant's Responses to Arun District Council Deadline 1 Submissions** (**Document Reference: 8.46**));
- South Downs National Park Authority (**Applicant's Responses to South Downs National Park Authority Deadline 1 Submissions** (**Document Reference: 8.47**)); and
- West Sussex County Council (**Applicant's Responses to West Sussex County Council Deadline 1 Submissions** (**Document Reference: 8.43**)).

- Parish Councils and Members of Parliament (**Applicant's Responses to Parish Councils and MP's Written Representations** (**Document Reference: 8.37**));
- Prescribed Consultees (as set out in Schedule 1 of the Infrastructure Planning (Application: Prescribed Forms and Procedures) Regulations 2010, noting that Parish Councils are also Prescribed Consultees) (**Applicant's Responses to Prescribed Consultee's Written Representations** **(Document Reference: 8.49)**);
- Affected Parties (Category 1, 2 and 3 Land Interests as identified in the **Book of Reference** **[PEPD-014]**) (**Applicant's Responses to Affected Parties' Written Representations** (**Document Reference: 8.51**));
- Members of the Public and Businesses (**Applicant's Responses to Members of the Public and Businesses' Written Representations** (**Document Reference: 8.52**)); and
- Non-Prescribed Consultees (this document: **Applicant's Responses to Non-Prescribed Consultee's Written Representations** (**Document Reference: 8.53**)).

1.3.2 The Applicant has reviewed the Written Representation (and 'Local Impact Assessment') submitted by Protect Coastal Sussex and has provided a response below.

2. Summary

2.1 Overview of Environmental Statement

2.1.1 The Applicant has undertaken an Environmental Impact Assessment (EIA) which considers and assesses the likely significant effects of the Proposed Development. The Environmental Statement (ES) **Volume 2** of the ES **[APP-042 to APP-072]**, and **Volume 4** of the ES **[APP-120 to APP-222]**, reports the findings of the EIA. The ES also provides information about the Proposed Development including its context, a full description of the Proposed Development and its construction, the main alternatives considered, the consultation process that was part of the EIA, and any relevant technical information that has been used to assess the likely significant effects of the Proposed Development. The ES and includes a series of chapters that consider and assess the likely significant effects of the Proposed Development in relation to each relevant environmental aspect. These include the following aspect chapters:

- **Chapter 6: Coastal Processes** of the ES **[APP-047]**;
- **Chapter 7: Other Marine Users** of the ES **[APP-048]**;
- **Chapter 8: Fish and Shellfish Ecology** of the ES **[APP-049]**;
- **Chapter 9: Benthic, Subtidal and Intertidal Ecology** of the ES **[APP-050]**;
- **Chapter 10: Commercial Fisheries** of the ES **[APP-051]**;
- **Chapter 11: Marine Mammals** of the ES **[REP1-004]**;
- **Chapter 12: Offshore Ornithology** of the ES **[APP-053]**;
- **Chapter 13: Shipping and Navigation** of the ES **[APP-054]**;
- **Chapter 14: Civil and Military Aviation** of the ES **[APP-055]**;
- **Chapter 15: Seascape, Landscape and Visual** of the ES **[APP-056]**;
- **Chapter 16: Marine Archaeology** of the ES **[APP-057]**;
- **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]**;
- **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP 059]**;
- **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**;
- **Chapter 20: Soils and agriculture, Volume 2** of the ES **[APP-061]**;
- **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**;
- **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**;
- **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**;
- **Chapter 24: Ground Conditions, Volume 2** of the ES **[APP-065]**;

- **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**;
- **Chapter 26: Water environment, Volume 2** of the ES **[APP-067]**; and
- **Chapter 27: Major Accidents and Disasters, Volume 2** of the ES **[APP-068]**;
- **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]**; and
- **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**.

2.1.2 There have been opportunities for the development of environmental measures which have been adopted to reduce the potential for environmental impacts and effects. These were included directly into the design of The Proposed Development as embedded environmental measures and are detailed in the **Commitments Register** **[REP1-015]** (updated at the Deadline 1). The Commitments Register was initially presented in the Scoping Report and subsequently updated throughout the Statutory Consultation exercises and in the Environmental Statement to reflect design evolution and consultation feedback. Further to this, a number of management plans have been included in the DCO Application such as **Outline Code of Construction Practice (CoCP)** **[PEPD-033]** which provide the details of the proposed embedded environmental measures to manage effects during the construction phase and is secured by Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]** (updated at Deadline 2).

2.2 Consultation

2.2.1 The project has been subject of multiple rounds of iterative consultation with local people and environmental authorities (through statutory and non-statutory consultation as detailed in Section 5.9 of **Chapter 5: Approach to the EIA, Volumes 2** of the ES **[APP-046]**). This process, and evidence of regard had to consultation responses, is set out in the **Consultation Report** **[APP-027]**.

2.2.2 During each consultation, the Applicant's consultation materials included a combination of both simplified plans to enable consultees to review draft proposals in relation to their geographical area of interest, while also providing more technical and detailed **Onshore Work Plans** **[PEPD-005]**.

2.2.3 During each consultation, the Applicant's environmental information provided a full account of the impacts of draft proposals on the environment and communities and outlined mitigation proposals. This was set out in the consultation materials for each consultation, as follows:

- Statutory Project-Wide Consultation, July-September 2021 as set out in the Preliminary Environmental Information Report (PEIR) (Rampion Extension Development, 2021).
- Reopened Statutory Project-Wide Consultation, February – April 2022 as set out in the PEIR (RED, 2021).
- Statutory Onshore Consultation, October – November 2022 as set out in the PEIR Supplementary Information Report (SIR) (RED, 2022).

- Targeted Onshore Consultation, February – March 2023 as set out in the PEIR Further Supplementary Information Report (FSIR) (RED, 2023).

2.2.4 The Applicant used a range of communications channels to keep members of the public and interested stakeholders prior to and throughout the formal consultations including press releases and media, visitor centre, social media, contacting the project via writing/freephone/email/project website, and the project website. All consultations leaflets were distributed to postal address with information about the consultation and how people can have their say. The consultation materials were made available at deposit locations (i.e. libraries) which were available for inspection, free of charge.

2.2.5 The consideration of responses to consultation is presented in the **Consultation Report [APP-027]**. This process resulted in the consideration of reasonable alternatives reported in **Chapter 3: Alternatives, Volume 2** of the Environmental Statement (ES) **[APP-044]** and the refinement to the final proposed DCO Order Limits.

2.3 Sustainability

2.3.1 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 type is recognised as being a critical national priority in the revised NPS EN-1 (Department for Energy Security and Net Zero (DESNZ), 2023a) and NPS EN-3 (DESNZ, 2023b), which came into force in January 2024 and are considered to be relevant to the determination of the DCO Application. 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.

2.3.2 The Proposed Development will contribute materially towards meeting the urgent national need for renewable electricity, significantly reducing carbon emissions from energy. The assessment set out in **Chapter 29: Climate change, Volume 2** of the ES **[APP-070]** concludes the Proposed Development has a lifetime greenhouse gas (GHG) emissions saving of 35,901 kilotonne carbon dioxide equivalent ($ktCO_2e$). The Proposed Development will continue to offset greenhouse gas (GHG) emissions until 2050, and therefore make a positive contribution the UK Government target to reach net zero emissions in 2050.

2.3.3 Section 104 of the Planning Act 2008 outlines that the DCO Application must be decided in accordance with the relevant NPS (in this case: NPS EN-1 (DECC, 2011a), NPS EN-3 (DECC, 2011b) and NPS EN-5 (DECC, 2011c) with NPS EN-1 (DESNZ, 2023a), NPS EN-3 (DESNZ, 2023b) and NPS EN-5 (DESNZ, 2023c), that came into force in 2024, relevant considerations in the decision-making process) unless (inter alia) the adverse impacts of a proposal would outweigh its benefits. **Section 5.4** of the **Planning Statement [APP-036]** summarises the potential environmental, social and economic benefits and the adverse impacts of the Proposed Development drawing on relevant information in line with NPS EN-1 (DECC, 2011a and DESNZ, 2023a). Section 5.5 of the **Planning Statement**

[APP-036] sets out the planning balance where the potential benefits and impacts of the Proposed Development are weighed up. Although, inevitably, there are adverse impacts associated with the scale and type of infrastructure that forms the Proposed Development, the Applicant considers that the planning balance is firmly in favour of the Proposed Development and the benefits outweigh the adverse impacts.

2.4 Alternative options considered

2.4.1 Section 4.4 of NPS EN-1 (DECC, 2011) indicates the need to present the main alternatives considered as part of the Proposed Development and to demonstrate consideration of environmental, social and economic effects including, where relevant, technical and commercial feasibility (paragraph 4.2.2). Section 4.2 of the draft NPS EN-1 (DESNZ, 2023) reiterates the requirement to present the main alternatives, also noting that "*only alternatives that can meet the objectives of the proposed development need to be considered*" (paragraph 4.2.21). Therefore, the Applicant has considered the reasonable alternative options relating to the development of an offshore wind farm technology.

2.4.2 **Chapter 3: Alternatives, Volume 2** of the Environmental Statement (ES) **[APP-044]** describes the alternatives studied by the Applicant and a comparison of their environmental effects across the project as a whole. This includes the alternatives considered and consulted on prior to the Development Consent Order application. As described in **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**, the Proposed Development has been developed through a multi-disciplinary design process including environment, engineering, landowner, and cost considerations. The Applicant has sought to avoid, reduce, or minimise the effects through the design process and also by identifying and securing embedded environmental measures. It is acknowledged that some residual effects remain across the site. The Applicant notes that paragraph 4.4.1 NPS EN-1 (2011), against which the Proposed Development is to be assessed, states there is no "*general requirement to consider alternatives or to establish whether the proposed project represents the best option*". This is reflected in paragraph 4.3.9 of NPS-EN1 (2023), which came into force in January 2024. Some specific policies require consideration of alternatives as set out in the National Policy Statement EN-1 (Department of Energy and Climate Change, 2011a), however these do not apply in relation to the comparison of the substation options.

2.4.3 Section 3.6 of **Chapter 3: Alternatives, Volume 2** of the Environmental Statement (ES) **[APP-044]** provides the information on the onshore substation site selection process. Section 3.6 describes the site selection process and the reasons for other sites being discounted based on the multi-disciplinary factors identified in the paragraph above. The selection of Oakendene is clearly stated as favourable for engineering, cost, and landowner considerations in paragraphs 3.6.23 to 3.6.25 of **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]**. Significant weight was also given to the environmental constraints and related policy in the overall balance of the decision. This Applicant has also developed further embedded environmental measures that have been presented in the application including the design principles in the **Design and Access Statement [AS-003]**, **Outline Landscape and Ecology Management Plan [APP-232]** and

Outline Operational Drainage Plan **[APP-223]** secured by requirements 8, 12 and 18 of the **Draft Development Consent Order** **[PEPD-009]** (updated at Deadline 2) respectively. As requested by the Examining Authority at Issue Specific Hearing 1, the Applicant has provided further information on the decision to discount the Wineham Lane North site for the onshore substation (**Deadline 1 Submission – 8.25.2 – Applicant's Post Hearing Submission – Issue Specific Hearing 1, Appendix 2 – Further information for Action Point 4 – Wineham Lane North** **[REP1-021]** submitted at Examination Deadline 1).

2.4.4 The **Design and Access Statement** **[AS-003]** outlines what the detailed design of the onshore substation at Oakendene and the extension to the existing National Grid Bolney substation shall accord with. The criteria for good design are set out in Section 4.5 of NPS EN-1 (DECC, 2011) and Section 4.7 of NPS EN-1 (DESNZ, 2023a). NPS EN-1 (DECC, 2011) and NPS EN-1 (DESNZ, 2023a) specifically acknowledge that the nature of energy infrastructure means that the extent to which development can contribute to the enhancement of the quality of the area is limited. NPS accordance trackers showing the accordance of the Proposed Development with the 2011 NPSs, extant at the time of the submission DCO Application, and the November 2023 NPSs, which came into force in 2024, will be submitted at Deadline 2.

2.4.5 Section 4.4 of the **Planning Statement** **[APP-036]** sets out the consideration of the key policy test regarding nationally significant infrastructure development taking place in the SDNP in line with the requirements of 5.9.10 of NPS EN-1 (DECC, 2011) and this aligns with the protections for National Parks in paragraph 5.10.32 of the revised NPS EN-1 (DESNZ, 2023). The consideration of the need for the development is outlined in paragraphs 4.4.7 – 4.4.21 of the **Planning Statement** **[APP-036]**. The consideration of the cost and scope of development alternatives outside the SDNP is outlined in paragraphs 4.4.22 – 4.4.67. This section draws on **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** which details the process of site selection and the consideration of alternatives. Section 3.3 of **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** outlines the alternatives considered in terms of grid connection and Section 3.4 sets out the alternatives considered in terms of landfall and onshore cable route. Together, these sections outline the cost and scope of delivering the reasonable alternatives outside of the SDNP. Therefore, this has been appropriately considered, as summarised in the **Planning Statement** **[APP-036]**.

2.4.6 The detrimental effects on the environment, landscape and recreational opportunities and extent to which these could be moderated is considered in paragraphs 4.4.68 – 4.4.90 of the **Planning Statement** **[APP-036]**. Specifically, paragraphs 4.4.69 – 4.4.75 considers the environment; paragraphs 4.4.76 – 4.4.84 consider landscape; and paragraphs 4.4.85 – 4.4.88 consider recreational activities. Section 4.4 of the **Planning Statement** **[APP-036]** draws on various assessments in the aspect chapters within the ES (particularly **Chapter 25: Historic environment, Volume 2** of the ES **[PEPD-020]**, **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]**; and **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]**) to outline the detrimental effects of the onshore cable route and the extent to which these could be avoided, prevented, reduced or offset. The **Commitments Register** **[REP1-015]** sets out the full range of embedded environmental measures to minimise or mitigate the

environmental effects a number of which are relevant to the South Downs National Park which are secured by Requirements 12, 15, 16, 20, and 22 of the **Draft Development Consent Order** **[PEPD-009]** (updated at Deadline 2).

2.4.7 That there are no predicted significant effects on ecology associated with the Proposed Development following the application of the mitigation hierarchy and the embedded environmental measures.

2.4.8 The Applicant has had due regard to the nationally designated SDNP in the design of the Proposed Development. **Chapter 3: Alternatives, Volume 2** of the ES **[APP-075]** which provides further description and summary of the evolution of the design. The Applicant refers to **Deadline 1 Submission – 8.25.5 Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 5 – Further Information on Action Point 27 – South Downs National Park** **[REP1-024]** which sets out further information. In summary this sets out:

- How the Applicant has sought to avoid, minimise, mitigate, and compensate onshore landscape and visual impacts from the onshore cable construction which could impact the SDNP or its setting.
- The established design and embedded environmental measures, which set out an approach to avoid and/or minimise the effects on heritage assets, through a strategy of evaluation and mitigation (both avoidance through engineering solutions and investigation and recording).
- That there are no predicted significant effects on ecology associated with the Proposed Development following the application of the mitigation hierarchy and the embedded environmental measures.

2.4.9 The Applicant therefore considers that it has appropriately considered the key policy tests in NPS EN 1 5.9.10 (DECC, 2011) and protections for National Parks in paragraph 5.10.32 of the revised EN-1 (DESNZ, 2023) relating to development taking place within the SDNP.

2.4.10 The importance of large-scale offshore wind in contributing to the mix of energy generation required in the UK is clear in the original version of NPS EN-1 (DECC, 2011), against which the DCO Application is assessed, and NPS EN-1 (DESNZ, 2023a) which came into force in January 2024. Furthermore, NPS EN-1 (DESNZ, 2023a) defines large scale offshore wind infrastructure as a Critical National Priority (CNP). Section 3.2 within **Chapter 3: Alternatives, Volume 2** of the ES **[APP-044]** outlines the site selection for the offshore array and examines the considerations that led to the identification of the location as a suitable location for offshore wind including taking into account the findings of the Strategic Environmental Assessment (SEA) of suitable areas for offshore wind conducted by the then Department of Energy and Climate Change (DECC) in 2009.

2.4.11 There is a demonstrable and urgent need for the Proposed Development (as demonstrated in Section 4.2 of the **Planning Statement** **[APP-036]** and the infrastructure subject to the DCO Application is identified as a Critical National Priority (in line with the 2023 NPS EN-1 and EN-3, which came into force in 2024). The Planning Statement paragraphs Section 5.4 summaries the benefits and adverse impacts of the Proposed Development and Section 5.5 notes the reasons

for Applicant's conclusion that the benefits of the scheme outweigh the adverse impacts taking account of proposed mitigation.

2.4.12 The Applicant has submitted a NPS accordance tracker showing compliance with the 2011 and 2023 NPS, which came into force in 2024, at Deadline 2 (see **Applicant's National Policy Statement Tracker (Document Reference: 8.38)**).

2.4.13 The Applicant refers to the following documents submitted to the Examination and the following sections of this response for further commentary on national and local policy:

- The **Planning Statement [APP-036]** submitted with the DCO Application;
- The Applicant's **Statement on the Implications of the 2023 National Policy Statements [REP1-031]**;
- The Applicant's **National Policy Statement Tracker** (**Document reference 8.38**) submitted at Deadline 2;
- The **Applicant's Marine Plan and Policies Statement** (**Document reference 8.50**) submitted at Deadline 2; and
- The Applicant's responses regarding policy in the Local Impact Reports and Written Representations from the Local Authorities:
  - **Applicant's Response to West Sussex County Council Deadline 1 Submissions** (**Document reference 8.43**) submitted at Deadline 2;
  - **Applicant's Response to** Arun District Council Deadline 1 Submissions (Document reference 8.44) submitted at Deadline 2;
  - **Applicant's Response to Horsham District Council Deadline 1 Submissions** (**Document reference 8.45**) submitted at Deadline 2;
  - **Applicant's Response to Mid Sussex District Council Deadline 1 Submissions** (**Document reference 8.46**) submitted at Deadline 2;
  - **Applicant's Response to South Down National Park Deadline 1 Submissions** (**Document reference 8.47**); and
  - **Applicant's Response to Brighton and Hove City Council Deadline 1 Submissions** (**Document reference 8.48**).

3. Seascape, landscape and visual impacts

3.1.1 National Policy Statement (NPS) EN-1 (DECC, 2011a), extant at the time of submission of the Rampion 2 Development Consent Order (DCO) Application and against which it will be tested, outlines that there is an urgent need for new renewable electricity projects. It is notable that the Proposed Development type (offshore wind) is recognised as being a critical national priority (CNP) in the revised NPS EN-1 and NPS EN-3 (DESNZ, 2023a; 2023b), which came into force in January 2024, for which there is an urgent need to deliver. The Proposed Development 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.

3.1.2 If consented, the Applicant will be placing turbine orders a decade after Rampion 1, with turbines not being installed until 2027 or 2028 at the earliest. Technology has significantly advanced since Rampion 1, so a sensible projection has been made using intelligence from turbine manufacturers of what the available turbine technology is likely to be several years from now. This avoids the risk of consenting a technology that might no longer be available in the marketplace, while ensuring the turbines offer the best solution to tackle climate change and the best value to the consumer.

3.1.3 The seascape and visual impacts of the Proposed Development Wind Turbine Generators (WTGs) are assessed in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**. The Applicant notes that significant effects on views experienced by people living, working, and visiting West Sussex have been identified at a number of representative viewpoints along the West Sussex coastline. The spatial extent of the Proposed Development array area has been reduced and designed according to a set of SLVIA specific design principles (Section 15.7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**) which provide embedded environmental measures by reducing the magnitude of effects and minimising harm on the perceived seascape qualities and views, focusing particularly on the South Downs National Park (SDNP). Opportunities to reduce effects through further design principles specific to West Sussex are limited by the technical, economic and functional requirements of the Project to produce renewable energy, as well as other environmental factors. The Applicant has produced and submitted a Seascape, Landscape and Visual Design Principles Clarification Note at Deadline 1 (**SLVIA Maximum Design Scenario and Visual Design Principles Clarification Note [REP1-037]**), which provides further commentary on these SLVIA specific design principles.

3.2 Has the Scale of the Project and its Visual Impact been fairly represented?

3.2.1 In its response, PCS refers to the welcome images (repeated below for ease) used on the Rampion 2 website: https://rampion2.com/latest/ and state that *"The website features a number of photographs showing wind farms and associated transmission platforms, substations, etc, and it would be easy to conclude these are representations of the Proposed Scheme."* The Applicant can confirm that this is not a photograph of Rampion 2 and is for illustrative purposes only. Photomontages are included in Figure 15.26 to Figure 15.79, **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Parts 4-8 of 8), Volume 3** of the Environmental Statement (ES) **[APP-091, APP-092, APP-093, APP-094, and APP-095]**. Photomontages have been produced in accordance with NatureScot Visual Representation of Windfarms Guidance (NatureScot, 2017) and Landscape Institute (2019) Technical Guidance Note (TGN) 06/19 Visual Representation of Development Proposals. Photomontages from the Preliminary Environmental Information Report (PEIR) from 2021 are also available on the Rampion 2 website here: https://rampion2.com/consultations-2021/formal-consultation-detailed-documents/

3.3 Protect Coastal Sussex Main SLVIA Concerns

A. The Government's Offshore Energy Strategic Environment Assessment 4 (OESEA4) and the White Report

3.3.1 There have been three versions of the Offshore Energy Strategic Environmental Assessment (OESEA), since 2009. None have proposed any form of exclusion zone for nearshore wind farms such as Rampion or Rampion 2. Furthermore, the Government was clear, in its responses after consultation on OESEA3, that it did not intend to even imply a notional exclusion zone.

3.3.2 OESEA4 (2022) (Appendix 2) 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)”.

3.3.3 The OESEA (2022) therefore does not suggest no-go areas for development, it is a strategic tool and not intended as guidance or a roadmap for the siting of offshore 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]**, the findings of which 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]**.

3.3.4 In respect of the SDNP and the Sussex Heritage Coast, the White 2020 report (White Consultants, 2020) recommends a distance buffer of 40 km for 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 not significant). Rampion 2 cannot 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 (White Consultants, 2020) (Table 13.1) and the more distant areas of the SDNP fall into the low magnitude (35 – 44 km) category. **Chapter 15: Seascape, landscape and Visual Impact Assessment, Volume 2** of the ES [**APP-056**] and the White 2020 Report (White Consultants, 2020) would therefore align that based on distance, the magnitude of change would not be ‘high’ from the Heritage Coast or the wider open downs of the SDNP to the north.

B. The effect the installation would have on the nationally significant characteristics of the shore, coastline and the landscape beyond, when viewed towards the coast

3.3.5 The effects of the Proposed Development on Seascape Character of Marine Character Areas (MCAs) are assessed in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**, however in line with the UK Marine Policy Statement (UK Government, 2011) the seascape impact assessment focuses primarily on areas of onshore landscape with views of the coast or seas and marine environment (rather than on views back to the coast from offshore areas). Effects of the offshore elements of the Proposed Development on seascape character areas MCA09 and MCA12 (which would have views back to the white cliffs of Seven Sisters) were scoped out of the SLVIA in agreement with the Planning Inspectorate (Planning Inspectorate, 2020). The

high sensitivity and value of MCA 08 South Downs Maritime is recognised in the assessment in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**, being coincident with the area of coastline defined as the Sussex Heritage Coast area of the SDNP, along the distinctive white cliffs of the Seven Sisters and Beachy Head between Seaford and Eastbourne. The coastline being rich in iconic landmarks is described as contributing to its high sensitivity, and its uses for recreational sailing and the Newhaven-Dieppe ferry route are recognised as being part of the seascape experience and some significant (moderate to major/moderate) residual effects to the perceived scenic qualities of the seascape experienced in panoramic views of the MCA are assessed as a result of the offshore elements of Rampion 2, due to its influence within the associated seascape setting of this coast within the SDNP and Sussex Heritage Coast. The effects of the Proposed Development on MCA13 English Channel covering the wider areas of the England Channel are however assessed as not significant given the relatively lower sensitivity of this large-scale open sea area and busy shipping channel supporting heavy sea traffic.

3.3.6 Due to the transient nature and short-term impact on holiday makers, maritime leisure activity participants and travellers (using, for example, ferries, passenger aircraft, leisure watercraft) viewing the Proposed Development from the sea or whilst airborne, and the varying distances and angles that each receptor would be viewing the Proposed Development from, this type of visual effect of views towards the coast on specific offshore visual receptors has not been assessed in detail in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**. People travelling on recreational vessels and ferries are considered more sensitive offshore visual receptors, due to the activity they are engaged in and the likely level of attention placed on the view, however receptors on recreational vessels will be able to plan a journey that increases the separation distance between the vessel and the offshore elements of Rampion 2. Ferry passengers between Newhaven and Dieppe have a lower sensitivity to change as they are principally travelling along a specific route to get from place to place and the character of the route is largely incidental to this purpose and the offshore elements of the Proposed Development are likely to be seen for a relatively small part of an overall journey. The views of the white cliffs of the Seven Sisters and arrival experience to the UK are noted by the Applicant, however from the passenger ferry between Newhaven and Dieppe, the Proposed Development will not be situated in the views towards the white cliffs of Seven Sisters, which are to the north of the route. The offshore elements of Rampion 2 will instead be located at considerable distance (over 20km) to the west of the inbound route, away from the white cliffs to the north and adjacent to the operational Rampion 1 wind farm in which there is an existing wind farm influence in the seascape.

3.3.7 In views over the English Channel from the east, Viewpoint 34: Bembridge Fort (Figure 15.57, **Chapter 15, Seascape, landscape and visual impact assessment – Figures (Part 7 of 8), Volume 3** of the ES **[APP-094]**) and Viewpoint 35: St. Boniface Down above Ventnor (Figure 15.58, **Chapter 15, Seascape, landscape and visual impact assessment – Figures (Part 7 of 8), Volume 3** of the ES **[APP-094]**) are both located on the Isle of Wight, on high ground that overlooks the Channel, viewing the Proposed Development towards the Sussex coast and no significant effects are predicted to occur (this was also confirmed during consultation by the Isle of Wight Council). In addition to this,

Figure 13.3 Summer vessel traffic survey data within study area by vessel type, **Chapter 13: Shipping and navigation – Figures, Volume 3** of the ES **[APP-086]** shows that the majority of recreational vessels sail in the area between coast and the northern border of the Proposed Development, as such the Proposed Development would not interact with their views of the coast.

C. The PEIR presumes that the turbine array only has an effect on homes and buildings within 100 metres of the shore

3.3.8 The Rampion 2 PEIR (RED, 2021) has been superseded by the Environmental Statement which was submitted with the Proposed Development application in August 2023.

3.3.9 The assessment describes the almost contiguous, linear urbanised coastline between Shoreham-by-Sea, Worthing, Lancing, Littlehampton, Selsey and Bognor Regis. Although the assessment identifies that the density of built form within these settlements will often screen the Proposed Development from view from areas set-back from the seafront, it is recognised in the assessment that there are views out to sea from both the seafront, from open space near the coast, higher buildings and from more elevated areas of these towns set back from the coast, in which viewers are liable to be influenced by the offshore elements of Rampion 2.

3.3.10 As the effect of the offshore elements of Rampion 2 is however, likely to be particularly focused on direct views out to sea from the coastal edge, there is a concentration of representative viewpoints in West Sussex from locations within 100m of the shore (Viewpoints 10, 11, 12, 13, 14, E and F), however a number of representative viewpoints have been included and assessed in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** from locations in West Sussex beyond 100m from the coast, including **Chapter 15: Seascape, landscape and visual impact assessment – Figures (Part 5 to 8 of 8), Volume 3** of the ES:

- Viewpoint 9 Shoreham (Figure 15.34) **[APP-092]**;
- Viewpoint 18 Cissbury Ring (Figure 15.43) **[APP-093]**;
- Viewpoint 19 Highdown Hill (Figure 15.35) **[APP-093]**;
- Viewpoint 61 A27 near Lancing College (Figure 15.71) **[APP-095]**;
- Viewpoint B1 Chichester Marina (Figure 15.74) **[APP-095]**;
- Viewpoint B2 Dell Quay (Figure 15.75) **[APP-095]**;
- Viewpoint C Eastergate (proposed A29) (Figure 15.76) **[APP-095]**; and
- Viewpoint D Footpath between A359 and Colworth (Figure 15.77) **[APP-095]**.

3.3.11 A number of these locations were agreed as representative of locations set further back into the West Sussex coastal plain during engagement undertaken by the Applicant through the **Evidence Plan (Part 1 of 11)** **[APP-243]**. These viewpoints either show views from the rising ground to the north with long sea views (such as Viewpoint 18 and 19) or where views are restricted due to the considerable development on the flat land of the coastal plan between the South Downs and the

shore (such as Viewpoint C and 61). The Applicant would note that West Sussex County Council have confirmed in paragraph 7.22 of their Local Impact Report (LIR) **[REP1-054]** that *"on the whole, WSCC is satisfied with the number of viewpoints produced, the location of these, and that the presented findings are robust".*

D. The added visual disruption caused by placing two farms with substantially different heights and spacings

3.3.12 Although the Rampion 2 WTGs will be viewed as being larger in scale than the operational Rampion 1 WTGs, following the introduction of embedded design principles between the statutory consultation (PEIR) and DCO application, there is now a better balance in apparent scale of the Rampion 1 and Rampion 2 WTGs, with stark scale comparisons minimised by siting Rampion 2 WTGs further offshore, introducing wind farm separation zones and avoiding the seascape immediately to the east of Rampion 1. A number of measures are embedded as part of the Rampion 2 design to avoid, minimise or reduce any significant environmental effects on seascape, landscape and visual receptors, as far as possible, a relevant example being the Windfarm Separation Zones (areas between Rampion 1 and Rampion 2 where it is not permitted to build turbines) shown on the **Offshore Works Plans** **[PEPD-004]**.

3.3.13 The influence of the 'separation foreground' design principle is discussed further in paragraphs 15.7.47 to 15.7.52 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** with further commentary provided in the **Applicant's Deadline 1 submission – 8.35 SLVIA Maximum Design Scenario and Visual Design Principles Clarification Note** **[REP1-037]**.

3.3.14 The Applicant notes that the Rampion 1 turbines (140 m to blade tip) are substantially smaller than the maximum height Rampion 2 WTGs proposed (325m to blade tip), and that where they are seen in conjunction, the difference in size will be notable to viewers particularly from the range of inland vantage points along the open tops of the downs, however it is considered that this scale difference appears less notable and more balanced in key views from the Heritage Coast of the SDNP due to the design principles embedded with the Project.

3.3.15 These design measures have reduced effects on views from the Heritage Coast in particular, but also from wider parts of the SDNP, in particularly reducing the field of view occupied by Rampion 2, reducing its proximity (increasing its distance) and providing separation with Rampion 1 such that the arrays are viewed with less contrasts in scale and as distinct elements from the Heritage Coast.

3.3.16 The Applicant reiterates, as noted above, that NPS EN-1 and EN-3 (2011 and 2023) recognise that "Virtually all nationally significant energy infrastructure projects will have effects on the landscape."

3.3.17 Opportunities to reduce effects through turbine height reduction are limited due to the technical and economic requirements associated with producing renewable energy as well as other environmental factors. For the reasons stated above the need to retain flexibility of WTG numbers, size and location within the Rampion 2 array area through the planning stages and assessment of a Maximum Design Scenario is necessary.

3.3.18 The EIA submitted in the Environmental Statement for Rampion 2 is based on parameters for the Rampion 2 development. As Wind Turbine Generator (WTG) technology is continually evolving, it is difficult to definitively predict the generating capacity and size of WTG that will be commercially available at the point of procurement for construction. As such, the size and capacity of the WTGs for the Proposed Development will be determined during the final design stage prior to construction. The final turbine design will be selected in accordance with the parameters set out in the DCO. The maximum design scenario for the WTG is described in **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**. The Applicant is seeking consent using a 'Rochdale envelope' approach, constrained by worst case parameters. These are described in Section 4.5 of **Chapter 4: The Proposed Development, Volume 2** of the ES **[APP-045]**.

E. The PEIR underrates the value of the empty ocean and sky

3.3.19 The Rampion 2 PEIR (RED, 2021) has been superseded by the **Environmental Statement** which was submitted with the Proposed Development application in August 2023.

3.3.20 The methodology used to determine the sensitivity and value of seascape receptors is set out in **Appendix 15.2: Seascape, landscape and visual impact assessment methodology**, **Volume 4** of the ES **[APP-158]**. The assessment in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** has been undertaken in accordance with the Landscape Institute and IEMA (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3), and other best practice guidance.

3.3.21 The seascape, landscape and visual effects (and whether they are significant) is determined by an assessment of the 'sensitivity' of each receptor or group of receptors and the 'magnitude of change' that would result from Rampion 2. The evaluation of sensitivity takes account of the value of the receptor and susceptibility of the receptor to the 'specific nature of the proposed development' (Landscape Institute and IEMA, 2013) i.e. the offshore elements of Rampion 2. This is combined with an assessment of the magnitude of change which takes account of the size and scale of the proposed change. By combining assessments of sensitivity and magnitude of change, a level of seascape, landscape or visual effect can be evaluated and determined. The resulting level of effect is described in terms of whether it is significant or not significant, and the geographical extent, duration and the type of effect is described as either direct or indirect; temporary or permanent (reversible); cumulative; and beneficial, neutral or adverse.

3.3.22 The effect of the Proposed Development on tranquillity experienced within the SDNP is assessed in Table 15.32 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** as part of Special Quality 3 of the SDNP 'Tranquil and unspoilt places'. Further consideration of the effects of the Project on tranquillity is also provided in **Deadline 1 Submission – 8.25.5 Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 5 – Further Information on Action Point 27 – South Downs National Park [REP1-024]**.

3.3.23 The Applicant notes that design changes introduced following the Section 42 consultation have reduced the adverse effects of the scheme on the Sussex Heritage Coast of the SDNP including the area around Beachy Head. 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. The Applicant's assessment in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** is that these design changes have led to tangible reductions in the significance of effects arising from Rampion 2 on views and special qualities of the SDNP, including the perceived tranquillity experienced from areas such as Beachy Head within the Sussex Heritage Coast area of the SDNP.

F. The Rampion 2 PEIR promised more appropriate images of the seascape than the wintertime images included, but these have not been forthcoming. Similarly, no simulations have been provided that offer realistic representations of the views from points on land. Likewise no simulations or illustrations have been produced to show the night time impact of the Aviation Lights viewed from the National Park and elsewhere. This makes it hard to assess the impact of the Wind Farm

3.3.24 The Rampion 2 PEIR (Rampion Extension Development Limited (RED), 2021) has been superseded by the Environmental Statement which was submitted with the Proposed Development application in August 2023.

3.3.25 Summer viewpoint photography was completed for the viewpoints below (taken from paragraphs 16.16.2 and 16.16.3 of the PEIR (RED, 2021)), the location in the Environmental Statement is included for each viewpoint:

- Viewpoint 33 Arundel Castle - Figure 15.56a-e **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 3** of the ES **[APP-094]**;
- 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 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]**;
- Viewpoint 30: Halnaker Hill - Figure 15.53a-b C**hapter 15: Seascape, landscape and visual impact assessment - Figures (Part 6 of 8), Volume 3** of the ES **[APP-093]**;

- Viewpoint 32: Levin Down - Figure 15.55a-b **Chapter 15: Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 3** of the ES **[APP-094]**; and
- Viewpoint 41: Slindon Folly - Figure 15.60a-b **Chapter 15 Seascape, landscape and visual impact assessment - Figures (Part 7 of 8), Volume 3** of the ES **[APP-094]**.

3.3.26 Photomontages in relation to seascape, landscape and visual impact assessment were provided in **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** in line with best practice guidance The Guidelines for Landscape and Visual Impact Assessment (Landscape Institute & IEMA (2013)).

3.3.27 Information on the limitation of the photomontage visualisations is provided in **Appendix 15.2: Seascape, landscape and visual impact assessment methodology, Volume 4** of the ES **[APP-158]**. In particular, the Applicant would highlight that there are practical limitations to shooting viewpoint photographs and those shown in the visualisations show the most favourable weather conditions available during photographic survey work, which was particularly extensive for the Project and required photography to be undertaken from 54 viewpoints for the SLVIA across a wide geographic study area. Furthermore, the majority of viewpoints for the SLVIA of the offshore elements of Rampion 2 are south facing, the sun is inevitably captured in some part of the southerly view panorama, which can make photography challenging, yet is illustrative of typical viewing conditions 'into the sun' in south facing views. The Applicant considers that the wide range of viewpoints provided and standard of the visualisations accords with guidance (Landscape Institute, 2019) and allows a clear understanding of the visual impacts of the Proposed Development.

3.3.28 In addition to this, the Applicant notes that in their S42 consultation response, as recorded in Table 15-7 of **Chapter 15: Seascape, landscape and visual impact assessment, Volume 2** of the ES **[APP-056]** West Sussex County Council stated *"The provided photomontages are useful tools that aid in the assessment of visual effects. They clearly show the significance of impacts likely to be experienced by receptors in West Sussex, in particular, the impacts that would result from the lengthy westerly extension, which would significantly extend the field of view over which impacts on seascape would be experienced."*

3.3.29 The assessment of aviation and navigation night-time lighting is undertaken within **Appendix 15.5: Assessment of aviation and navigation night-time lighting, Volume 4** of the ES **[APP161]** and this assessment includes consideration of effects of night-time lighting on the South Downs International Dark Sky Reserve (IDSR) and urban areas outside the IDSR. An additional night-time viewpoint photograph was undertaken within the core area of the South Downs IDSR at Viewpoint 21 Bignor Hill (Figure 15.46g-h, **Chapter 15 Seascape, landscape and visual impact assessment – Figures, (Part 6 of 8), Volume 3** of the ES **[APP-093]**) (Dark Skies Discover Site 5) as agreed with the SDNP, which illustrates the aviation and marine navigational lighting of Rampion 2. The Applicant does, however, acknowledge the ES omission of night-time visualisations and assessment of night-time effects from the agreed additional two viewpoints in West Sussex outside the IDSR. The Applicant has therefore

provided a **Supporting Study Appendix 15.6: Supplementary Night-Time Viewpoint Assessment, Volume 4** of the ES [**PEPD-024]** (submitted at the Pre examination Procedural Deadline on 16 January 2024). This provides a further assessment of the visual effects of night-time aviation and marine navigation lighting from the agreed viewpoints at Worthing (Viewpoint 10) and Pagham (Viewpoint 13) outside the IDSR, which is supported with night-time photomontage visualisations from these locations. No night-time significant effects are predicted to occur at Viewpoint 10 or Viewpoint 13

G. The Rampion 2 PEIR recognises the importance of uninterrupted sea views from the Heritage Coast and the South Downs National Park, and recognises that the proposed Wind Farm will have significant effects, but then seems to suggest that this is of little consequence since Rampion 1 has been in commission since 2017 and has already degraded the “stunning panoramic views”.

3.3.30 The Applicant has provided a detailed response to this point in row 3.4.7 of the **Applicant's Response to South Down National Park** (**Document Reference 8.47**) submitted at Deadline 2.

4. Social effects on local residents and communities and tourism

4.1 Health and Wellbeing

4.1.1 The Environmental Statement ES includes a series of chapters that address the potential effects for local communities including amenity, quality of life, and disruption. Wherever practicable, likely adverse effects have been avoided or minimised through embedded environmental measures in the design of the Proposed Development, taking into account the findings of the ES, consultation with stakeholders and national and local policy requirements.

4.1.2 **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]** assessed the potential impacts for population and human health. The assessment concluded that the magnitude of impact on human health from potential changes to air quality, noise and vibration exposure, transport nature and flow rate, visual amenity, land contamination, access to opportunities for physical activity, socio-economic factors, and electromagnetic fields as a result of the Proposed Development is negligible, which is not significant in EIA terms.

4.1.3 The assessment within **Chapter 7: Other marine users, Volume 2** of the ES **[APP-048]** and **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** considers the impact on other marine users and socio-economics experienced as a result of Rampion 2 and concludes that the Proposed Development will provide positive benefits for the local and national economy (although not significant in EIA terms) whilst there will be negligible impacts on the visitor economy.

4.1.4 A number of management plans **[APP-223 to APP-242]** have been included in the DCO Application such as the **Outline Code of Construction Practice (CoCP) [PEPD-033]** and **Outline Public Rights of Way Management Plan (PRoW) [APP-230]**, which has been developed alongside the EIA process and provide the details of the proposed embedded environmental measures to manage effects during the construction stage. This includes measures that will be implemented to ensure minimal disruption to the local community, such as commitments C-22 (working hours), C-32 (crossing schedule), and C-105 (site lighting) secured via requirement 22 and 20 of the **Draft Development Consent Order [PEPD-009]**.

4.2 Wind resource / value for money

4.2.1 The Proposed Development is sited in a location which is suitable for constructing an offshore wind farm and has a sufficient wind resource to make it viable. The operational Rampion 1 project demonstrates the viability siting offshore wind farms in the general area along the Sussex coastline. The Proposed Development is anticipated to produce the annual equivalent of that needed to supply over 1 million homes.

4.2.2 The developer for Rampion 2, RWE, has over 20 years of experience in constructing and operating offshore wind farms, and has determined that Rampion

2 is a viable site and productive location for wind energy generation, with a predicted wind speed of ~9.3 m/s.

4.2.3 The latest figures show that the operating Rampion Wind Farm exceeded target generation1 by 15% in 2023. Rampion has exceeded its target for three of the four complete years of operation from 2020-23 and in terms of total generation across this period, Rampion has exceeded the target by 82%.

4.2.4 It is not only the wind resource that makes Rampion 2 an ideal location for an offshore wind farm. With the southeast of England being one of the most densely populated regions in Europe, it's a huge demand centre for electricity. Rampion 2 can therefore create a greater contribution to electricity generation close to where the demand centre is located, which reduces transmission losses and requires no electricity storage facilities.

4.2.5 The industry regulator requires every project to be designed and invested in an economic and efficient manner, to minimise cost to the end consumer. Once the Rampion 2 Offshore Wind Farm starts generating, the applicant is required by law to transfer the transmission assets (comprising the onshore substation, onshore export cables, offshore export cables and offshore substations) to a regulator appointed Offshore Transmission Owner ("OFTO"). During the transfer process, the regulator will set the efficient cost for which the transmission assets should have been delivered for, which sets the price the OFTO will pay for the assets. Though it is possible to include anticipatory investments in this process, Rampion 2 does not have evidence on any future projects which could make use of anticipatory investment. This would mean that the regulator could not award costs for such investment. The applicant therefore cannot commit to any anticipatory investments at this stage, such as installing more cables for any future project. If a project emerged which could make use of anticipatory investment ahead of the decision to construct Rampion 2, it may be possible to change this position if the additional assets could be built within the consent limits.

4.3 Socio-economic assessment

4.3.1 Local evidence from the tourism sector Office for National Statistics (ONS) employment data pre, during and post construction of Rampion 1 is presented in **Chapter 17: Socio-economics, Volume 2** of the Environmental Statement (ES) **[APP-058]**. As noted in the assessment this shows continued growth of the sector across Sussex when comparing pre construction to post construction (pre COVID-19 pandemic).

4.3.2 **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** details relevant studies and evidence from offshore wind farms in the UK which shows that there has been no evidence of overall negative impact on the tourism economy from the development of offshore wind farms in the UK and there are a number of UK offshore wind farms which are operational that are less than 25km from shore (including Westermost Rough, Humber Gateway, Lincs, Thanet, Kentish Flats Extension, Gwynt y Mor and Rampion 1). This evidence included analysis of tourism employment numbers for Rampion 1 which showed higher levels of tourism and employment across Sussex coastal seaside towns over the period in

which Rampion 1 was operational compared to before Rampion 1 began construction.

4.3.3 The assessment of the impact on the volume and value of tourism detailed in Sections 17.9, 17.10, and 17.11 of **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** considered the changing public perceptions of offshore wind as evidenced by the UK Governments Public Attitudes Tracker. The assessment within explores the impact on tourism and finds that overall, when all influencing factors are considered, the effect of the Proposed Development on the volume and value of tourism across Sussex is expected to be negligible. While there may be some people with negative perceptions of offshore wind farms who may be deterred from visiting, these are likely to be small in number and could be offset by those who are more likely to visit the area due to the development of offshore wind (see paragraph 17.9.27 of **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]**. For example, those visiting the existing Rampion visitor centre or those going on boat trips to the offshore infrastructure of Rampion 2.

4.3.4 The Applicant can confirm that none of the baseline conditions data limitations noted in Section 17.5 of **Chapter 17: Socio-economics, Volume 2** of the ES **[APP-058]** would have a material effect on the assessment. These data limitations increase the uncertainty when assessing and quantifying impacts, but not to the extent that they would affect the significance conclusions. For example, the gaps in literature related to tourism effects relate to a lack of ex post studies. Despite this, the literature has strengthened over time. This has improved the confidence and robustness of tourism assessment findings related to offshore wind farms.

4.3.5 The assessment on tourism did not find any major / moderate adverse effects. The reference to major / moderate adverse and significant effects is related to of the landscape and visual impact assessment (LVIA) which assesses the visual effects likely to be experienced by people as reported in **Chapter 18: Landscape and visual impact, Volume 2** of the ES **[APP-059]** and **Chapter 15: Seascape landscape and visual impact assessment, Volume 2** of the ES **[APP-056]**. These assessments identified significant visual effects would occur at a limited number of tourist destinations with the effects of the onshore elements of the Proposed Development limited to the construction phase. However, it does not follow that effects on tourism and tourism assets will also be significant.

5. Environment, biodiversity, and ecosystem Impacts

5.1 Offshore Infrastructure Effects

Marine Biodiversity Net Gain was not considered at the District Level.

5.1.1 The Applicant has committed to deliver at least 10% biodiversity net gain (BNG) (see **Appendix 22.15: Biodiversity Net Gain Information, Volume 4** of the ES **[APP-193]** and commitment C-104 of **Commitments Register** **[REP1-015]**) BNG is secured via Requirement 14 of the **Draft Development Consent Order** **[PEPD-009]**.

5.1.2 Whilst Marine Net Gain is not currently mandated in the same way as onshore (terrestrial) biodiversity net gain (BNG), in recognition of the principles set out in the NPS EN-1 (DESNZ, 2023a) that came into force in 2024, the Applicant is currently exploring opportunities to partner with organisations who are able to deliver marine benefits in the region.

Habitat suitability assessments, including pre and post construction surveys and impacts on special marine protection areas were challenged by stakeholders.

5.1.3 A habitat suitability assessment following the MarineSpace (2013a) and (2013b) methodologies for herring and sandeel as recommended by the MMO has been undertaken and was provided in **Deadline 1 Submission – 8.25.1 Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 9 – Further Information for Action Points 38 and 39** **[REP1-020]** at Deadline 1.

5.1.4 The Applicant has responded to points raised by stakeholders regarding pre and post construction surveys and impacts on marine protected area in the following documents:

- **Deadline 1 Submission – 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**:
  - Table 4-10 Applicant's response to Natural England - Appendix E (Fish and Shellfish Ecology);
  - Table 4-11 Applicant's response to Natural England - Appendix F (Benthic, Subtidal and Intertidal Ecology);
  - Table 4-12 Applicant's response to Natural England - Appendix G (Other plans); and
  - Table 4-22 Applicant's response to Marine Management Organisation

Impact on marine mammals, including many rare and protected species that are in the proposed zone where habitat is fully protected out to the 12 nautical miles

5.1.5 The Applicant has responded to points raised by stakeholders regarding impacts on marine mammals in the following documents:

- **Deadline 1 Submission – 8.24 Applicant's Responses to Relevant Representations [REP1-017]**:
  - Table 4-8 Applicant's Response to Natural England - Appendix C (Marine Mammals); and
  - Table 4-22 Applicant's response to Marine Management Organisation.

Lack of consideration of vast research of the adverse impact on flying insects impacting on biodiversity as well as pollination services

5.1.6 The Applicant has responded to points raised by stakeholders regarding impacts on flying insects in row NSB6.5 Table 7-6 Applicant's Response to Middleton on Sea Coastal Alliance of **Deadline 1 Submission – 8.24 Applicant's Responses to Relevant Representations [REP1-017]**.

Underwater noise (UWN) disturbance of fish and crustaceans impacting on spawning cycles and bio-productivity notably from piling for turbine and substation erection was cited and concerning.

5.1.7 The Applicant has responded to points raised by stakeholders regarding impacts on underwater noise disturbance of fish and crustaceans in the following documents:

- **Deadline 1 Submission – 8.24 Applicant's Responses to Relevant Representations [REP1-017]**. Table 4-10 Applicant's response to Natural England - Appendix E (Fish and Shellfish Ecology): and
- **Deadline 1 Submission – 8.25.1 Applicant's Post Hearing Submission – Issue Specific Hearing 1 Appendix 9 – Further Information for Action Points 38 and 39 [REP1-020]**.

Threats to the benefits which would otherwise be naturally achieved and contribution (such as the marine kelp restoration project) include deleterious sediment releases from cutting the seabed to bury over 250km of array cabling and power evacuation cabling exist.

5.1.8 The Applicant has responded to points raised by stakeholders regarding impacts on the Sussex kelp beds in row: 5.1.8 of the Applicant's response to points raised at Deadline 2 (**Applicant's Response Prescribed Consultees' Written Representations (Document Reference 8.49)**).

Perceived benefits would be limited and specific but overwhelmed by the adverse impacts from construction through operation and decommissioning

5.1.9 The need for new renewable energy infrastructure and the significant benefits of the Proposed Development, are set out in the **Planning Statement** **[APP-036]**.

Onshore Infrastructure Effects

5.1.10 Protect Coastal Sussex raise a number of issues with regards to onshore infrastructure. The commitment to delivering biodiversity net gain is welcomed, but the level of certainty that it will be delivered, and level of detail on how it will be delivered, is questioned. The delivery of Biodiversity Net Gain (BNG) is secured through Requirement 14 of the **Draft Development Consent Order** **[PEPD-009]**. The approach to BNG is largely in line with that accepted by the Secretary of State for the Yorkshire Green project that was consented on 14 March 2024. It is also noted that the Biodiversity Metric calculates both compensation (the position to no net loss) and biodiversity net gain (the 10% uplift above baseline).

5.1.11 Protect Coastal Sussex are concerned with the trenchless crossing of Climping Beach Site of Special Scientific Interest (SSSI) and West Beach Local Nature Reserve (LNR). The crossing of Climping Beach SSSI (noting there is no crossing of West Beach LNR) and the potential effects that could occur are discussed in the **Deadline 1 Submission – 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**, in particular in Table 4-15, responses J6, J13, J49 and J50.

5.1.12 Protect Coastal Sussex are concerned that the Weald to Waves project could be undermined by the delivery of the Proposed Development. Following conclusion of construction, the land above the cables will be available for habitat creation. Although certain types of habitat creation would be prohibited (e.g. anything requiring digging above the cables) there is a plethora of habitats that could be created including coastal and floodplain grazing marsh, marshy grassland, hedgerows and scrub.

5.1.13 Protect Coastal Sussex are concerned with the potential temporary loss of functionally linked land. This is discussed at length in the **Deadline 1 Submission – 8.24 Applicant's Responses to Relevant Representations** **[REP1-017]**, in particular in Table 4-15, responses J11, J12, J16, J17, J18 and J20.

5.1.14 Protect Coastal Sussex request more information on advanced planting. Advance planting for the delivery of BNG is detailed in **Appendix 22.15: Biodiversity Net Gain Information, Volume 4** of the ES **[APP-193]** (secured via Requirement 14 within the **Draft Development Consent Order** **[PEPD-009]**) where 70% of the units required to meet BNG are described as being provided prior to commencement of construction in each stage. Advanced planting at Oakendene Substation will be clarified in an update to the **Outline Landscape and Ecology Management Plan** **[APP-232]** **(**secured through Requirements 12 and 13 of the **Draft Development Consent Order** **[PEPD-009]**) that will be provided at Deadline 3. This update will also provide additional information on management, monitoring and the process for delivering remedial works should they be required.

6. Landscape and underwater noise effects

6.1 Onshore noise effects

6.1.1 Paragraph and table references, unless otherwise specified, are from **Chapter 21: Noise and vibration, Volume 2** of the Environmental Statement (ES) **[PEPD-018]**.

6.1.2 The Interested Party (IP) references noise Principle Areas of Disagreement (PADs) from Arun District Council (ADC). The Applicant recommends that the IP review the Applicants' responses to this rather than these be copied verbatim.

6.1.3 The Applicants elements specific to the IP's Written Representation are presented below. Each Section is a direct response to the respective "PCS Team Observation" where such a response is possible.

PCS Team Observation 1

6.1.4 *"Littlehampton is not affected by A259 except the northern boundary, however, the southern and coastal part of the settlement is not affected by the transport and there is not disturbance from the rail traffic due to the position of the station, the tracks, and the frequency of trains. Gardening activities, conversation and music are activities associated with an enjoyment of human beings and the sea approaching the coast is natural/pleasant sound which is incomparable with a technical/mechanical repetitive noise produced as an outcome of construction, running WTG and all substations, accommodation of cables and maintenance."*

6.1.5 Section 21.6 within **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** provides a description of the existing baseline to accompany the collection of baseline sound levels measurements, before the project sound (construction and operation) is assessed against the existing baseline. Section 21.15 in **Chapter 21: Noise and vibration, Volume 2** of the ES **[APP-062]** concluded that the potential effect during the construction phase and operation and maintenance phase will be negligible to minor adverse following the implementation of embedded environmental measures, which is not significant in terms of EIA.

PCS Team Observation 2

6.1.6 *"There is no definition of noisy activities' provided and how 'noisy' they are supposed to be."*

6.1.7 The Applicant considers the term 'noisy activities' in this regard to be any construction method that employs plant or power tools with the potential to give rise to sound levels at or above the threshold of significance as described in 21.6.10 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**.

The noise magnitude of these activities are considered in Tables 21-27 to 21-34, in **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**.

PCS Team Observation 3

6.1.8 *Paragraph 5.11.9 of NPS EN-1 indicates, "The IPC [now the Planning Inspectorate] should not grant development consent unless it is satisfied that the proposals will meet the following aims:*

• avoid significant adverse impacts on health and quality of life from noise;

• mitigate and minimise other adverse impacts on health and quality of life from noise; and

• where possible, contribute to improvements to health and quality of life through the effective management and control of noise".

"None of the above bullet points is adequately addressed. The proposed development should not be built in this area due to its detrimental impact on natural environment, impact on visual amenity and an unacceptable impact on the health and quality of life of local residents from noise. It indicates the Rampion 2 should not be granted development consent since it is contrary to all the above aims, deteriorating the natural environment and health and quality of life all people living in the nearby settlements. How many? The impact on health and quality of life from noise is not even mentioned in the proposal."

6.1.9 The Applicant considers that the aims of the overarching National Policy Statement for Energy (NPS EN-1) have been addressed through the design of the project avoiding residential receptors where possible via the onshore cable routing, selection of temporary construction compounds and the onshore substation site.

6.1.10 Through design optimisation, most noise effects are minimised and through the application of mitigation, all noise significant effects are avoided.

PCS Team Observation 4

6.1.11 *"What is meant by the large distances between noise source and receptor? How large is large enough to be omitted and what kind of noise would the residents would be exposed to? Closest distance to shore of wind farm area is 13km. Is it a large distance for a sound/noise? Acoustic space is non-locational, spherical and all surrounding, has no obvious boundaries and tends to emphasize a space itself rather than objects in the space."*

6.1.12 The offshore substations are greater than 10km from land. Operational offshore substation noise would not be audible as a result of the sound attenuation from the large distance between the offshore substations and onshore receptors, leading to no likely significant effect. This is confirmed by the agreement to scope out operational offshore substation noise (see Table 21-12 within **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**). In answer to the IP's question and with regard to 21.12.3 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**, the Applicant would consider 1km a long distance for substation noise, 13km would not give rise to any audible noise from this type of equipment.

PCS Team Observation 5

6.1.13 *"Why indoor noise only? During summer people spend more time outdoor than indoor, keep windows open*."

6.1.14 The standard methodology undertakes the assessment outdoors. Daytime noise, when people will mostly be outdoors is negligible when compared with the background sound levels (i.e. highest assessment rating level was 6dB below background). The low-frequency, indicative noise break-in assessment was agreed to be carried out to demonstrate that even if the substation gave rise to low frequency noise, this would be at a level below that which sleep disturbance would be expected as an observable effect.

PCS Team Observation 6

6.1.15 *"Best practice measures, for example…. How high will be this noise in decibels"*

6.1.16 Best practice measures for construction noise are management controls, e.g. turning off plant when not in use or engineered *controls* e.g. acoustic screening of noise-generating plant. The best practice measures are usually derived from BS 5228, the statutory code of practice for construction noise. For similar activities, what constitute 'Best Practice' may differ between scenarios, due to different source-pathway-receptor relationships.

6.1.17 There are no set levels that apply as an absolute limit, apart from general provisions for protecting members of the public under the Health and Safety at Work etc. Act, and the Control of Noise at Work Regulations.

6.1.18 BS5228 Annex E provides guideline construction sound levels that, if exceeded for a month or more, would be significant. **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** used these as the basis for the construction noise assessment.

PCS Team Observation 7

6.1.19 *"The construction may be for a period of months or even years, not temporary as such, and is unlikely to be viewed as acceptable by noise sensitive receptors."*

6.1.20 Although the construction phase is anticipated to be 3.5 years, and this was considered within **Chapter 21: Noise and vibration, Volume 2** of the Environmental Statement (ES) **[PEPD-018]** (paragraph 21.9.3), the worst-case durations of construction noise are not. The worst case assumes that many activities are undertaken simultaneously that is unlikely to be the case for the majority of the time, if it happens at all. Where thresholds of significance are potentially exceeded by the works, but the duration that the receptor will be exposed to the noise is less than a month, this is below the temporal threshold and not significant.

6.1.21 Construction noise will be mitigated and managed through the application of the stage specific Code of Construction Practice in accordance with the **Outline Code**

of Construction Practice **[PEPD-033]** which will be submitted to and approved by the relevant planning authority (Requirement 22 within the **Draft Development Consent Order** **[PEPD-009]**).

PCS Team Observation 8

6.1.22 *"Noise disturbance minimised and managed proactively! This statement has no meaning. How it would be managed in the practice?"*

6.1.23 The **Outline Code of Construction Practice** **[PEPD-033]** outlines management measures and mitigation proposed at all onshore construction areas to reduce the effects relating to noise and vibration from construction of the Proposed Development, including commitments C-10, C-26, and C-263 (**Commitments Register** **[REP1-015]** updated at the Deadline 1 submission). Commitment C-263 includes the production of a Noise and Vibration Management Plan (NVMP) during detailed design based on the principles in the **Outline Code of Construction Practice** **[PEPD-033]**, detailing best practicable means and location specific mitigation and secured by Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]** updated at Deadline 2. The NVMP will be based on further assessment on where noisy construction activities, including piling will occur. Additional measures will be considered at these locations, such as mufflers, acoustic shrouds, and temporary noise barriers, where appropriate.

6.1.24 *"It should not be permitted."*

6.1.25 For the reasons described above in respect of PCS Team Observation 3, The Applicant disagrees.

PCS Team Observation 10

6.1.26 *"The period of months, years are a long term construction effects."*

6.1.27 The Applicant considers that construction noise is controlled in the UK through the application of BS5228-1, the code of practice. World Health Organisation (WHO) guidelines can help provide additional context in certain circumstances, but they are not the primary guidance for this type of noise.

PCS Team Observation 11

6.1.28 *"This information is unhelpful for any member of public and there is no information about predicted levels of noisy activities in decibels and what would be expected after using above mentioned means."*

6.1.29 Determination of significance usually rests on numerical assessments of sound, which cannot always translate to something easily understandable. Reference to a semantic scale of different types of noise at different distances is considered by the Applicant to be of limited assistance.

6.1.30 The dB levels applied are those provided in Annex E Table E.1 which is reproduced within **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]** as Table 21-15.

PCS Team Observation 12

6.1.31 *"What is 'Danish Statutory Order'? What distances does it apply? How many Danish Windfarms are in or proposed for inshore waters and at what scale?"*

6.1.32 The Danish Statutory Order (DSO)1284 (2011) is a legislative document that describes a calculation method that describes how noise assessments of wind turbines should be carried out in the Danish jurisdiction. The methodology is a different propagation model to the ISO 9613-2 method that is the industry standard for noise modelling software. The DSO is considered more appropriate for long distance propagation models due to its evaluation of sound only in the 10 Hz to 160Hz bands., which propagate further over water than higher frequency sound. The Danish Statutory Order 1284 method is an option within the SoundPlan software package that the Proposed Development was modelled in.

PCS Team Observation 13

6.1.33 *A tonal penalty from the onshore substation low frequency 'hum' has been applied to form a rating correction. No other corrections have been applied (i.e. impulsivity, intermittency, or other sound characteristics). An explanation is missing. What was applied and what is an effect?"*

6.1.34 BS4142 provides guidance as to how to penalise commercial noise in assessments carried out using the standard.

6.1.35 Tonality penalties range from 0 to 6dB above the specific noise level being evaluated. For this assessment the unmitigated situation attracted a penalty of +4dB, whereas the mitigated situation attracted a penalty of +2dB as the tone will be less obvious in the mitigated situation than in the unmitigated, as the mitigations within the design address the tonality of the sound as well as the overall broadband level.

PCS Team Observation 14

6.1.36 "*Low frequency noise is specifically not considered as part of BS 4142 (BSI, 2019) and the standard refers to a report by Moorhouse et al. (2011), which concludes with a reference curve for assessing low frequency noise down to 10 Hz. The ANC technical guidance on BS 4142 (ANC, 2020) clarifies that lower frequencies are not precluded from being part of a BS 4142 (BSI, 2019) assessment. It is considered that applying a rating correction for low frequency noise may not appropriately protect residential amenity and may unnecessarily affect mitigation design. The Applicant in this statement admits that the protection of residential amenity from low frequency noise would not be secured."*

6.1.37 The IP appears to misunderstand what these paragraphs are conveying, which is that substations can be the source of low-frequency noise. If such noise is not adequately assessed, this can lead to insufficient mitigation being applied to the noise source. The Applicant considers that the indicative noise break in assessment shows that in this case, low frequency noise will not be a special case that needs to be assessed separately, but that the noise limits applied and secured through Requirement 29 of the **Draft Development Consent Order**

[PEPD-009] are sufficient to address all substation noise including the lower frequencies.

PCS Team Observation 15

6.1.38 *"21.8.32 In addition, as discussed in Section 21.8, contextual consideration is also given to the absolute noise level from the onshore Oakendene substation. If the background sound level is low, such as 30 dB at night, a Rating Level of 35 dB would only be considered a minor effect as this level of noise would not be disturbing to sleep. The receptor can better hear higher frequencies, it means if background sound level is 30 dB (it can be natural) the sound of substation would prevail (technical, monotone which is the most annoying)."*

6.1.39 The Applicant considers that the BS4142 assessment has been carried out in accordance with the standard and significant effects are avoided.

PCS Team Observation 16

6.1.40 *"No obvious consideration was considered with regards to the impact of the proposed development on health, quality of life and visual amenity of residents of Littlehampton or any coastal community"*

6.1.41 **Chapter 28: Population and human health, Volume 2** of the ES **[APP-069]** draws from and builds upon key outputs from the noise and vibration assessment and therefore the potential noise effects are addressed in further detail in **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**.

6.1.42 On the basis that public health is preventative in nature, any proposed mitigation measures required to minimise harm are focused on the environmental determinants of health such as air quality, noise and transport.

6.1.43 Noise-related targeted secondary mitigation to reduce effects on specific receptors is proposed where appropriate and have been taken into consideration when assessing potential health and wellbeing effects in **Chapter 28: Population and human health, Volume 2** of the Environmental Statement **[APP-069]**. Visual Amenity is assessed **Appendix 18.5: Residential Visual Amenity Assessment, Volume 4** of the ES **[APP 171]**). The Applicant considers that these topics have been covered adequately.

6.2 Underwater noise effects

6.2.1 The text provided by Protect Coastal Sussex is a replication of the response received by Constructive Heritage **[REP1-083]**. The Applicant has responded to these points in detail in: **Applicant's Response to Non-Prescribed Consultees' Written Representations (Document Reference 8.53)**.

7. Other significant local impacts and considerations

7.1 Alternative options considered

7.1.1 The Interested Party raised concerns over the alternative options considered, please see the Applicant response to this in **Section 3.4** above.

7.2 Local community disruption and traffic impacts

7.2.1 The likely significant transport effects associated with the construction phase of the Proposed Development have been assessed in **Chapter 23: Transport, Volume 2** of the Environmental Statement (ES) **[APP-064]**, **Chapter 32: ES Addendum** **[REP1-006]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-008]**. The methodology used follows Institute of Environmental Management and Assessment (IEMA) (1993) publication Guidelines for the Environment Assessment of Road Traffic.

7.2.2 At the request of the Examining Authority the Applicant has also completed a Technical Note (see **Review of IEMA Guidelines on Environmental Assessment of Traffic and Movement** (**Document Reference: 8.41**) submitted at Deadline 2) in response to Action point 8 from Issue Specific Hearing 1: *Note to be provided on the principal differences between the 1993 and 2023 Institute of Environmental Management's Traffic Assessment Guidance documents and whether there would be difference in the outcome of the assessment if the latter was used*. The **Review of IEMA Guidelines on Environmental Assessment of Traffic and Movement** (**Document Reference: 8.41**) confirmed that use of the new guidance would not result in the identification of new significant effects in comparison with the conclusions of **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**. It should also be noted that use of the EATM 2023 guidance also removes the significant effects in relation to fear and intimidation identified within **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** for Michelgrove Lane and Kent Street.

7.2.3 Furthermore, during pre-application consultation with National Highways and West Sussex County Council it was agreed that **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-008]** would provide a level of detail considered to be proportionate to the volume of traffic predicted to be generated by the Proposed Development. It is also noted in West Sussex County Council's Relevant Representation **[RR-418]** that the highway authority are content with all baseline traffic data used in the assessment of the Proposed Development.

A272

Traffic Routing through Cowfold

7.2.4 To limit the effects on these receptors a range of embedded environmental measures have been provided by the Applicant as detailed within the **Commitments Register** **[REP1-016]** submission and secured through the **Outline Construction Traffic Management Plan** **[REP1-010]**. The production of a stage specific CTMP in accordance with the Outline CTMP **[PEPD-035a]** is secured through Requirement 24 of the **Draft Development Consent Order** **[PEPD 009]**. The **Outline Construction Traffic Management Plan** **[REP1-010]** includes:

- Commitment C-157: The proposed heavy goods vehicle (HGV) routing during the construction period to individual accesses will be developed to avoid major settlements of Storrington, Cowfold, Steyning, Wineham, Henfield, Woodmancote and other smaller settlements where possible; and
- Commitment C-158: The proposed heavy goods vehicle (HGV) routing during the construction period to individual accesses will avoid the Air Quality Management Area (AQMA) in Cowfold where possible.

7.2.5 These commitments are also reflected in Table 5-1 of the **Outline Construction Traffic Management Plan** **[REP1-010]** and confirms prescribed local Heavy Goods Vehicle (HGV) access routes for all sections of the onshore cable corridor and Table 5-2 which details specific local constraints and proposed management of construction traffic routes.

7.2.6 These commitments ensure that HGV construction traffic will route along the A27 and A23 to gain access to the A272 east of Cowfold wherever possible, thereby avoiding the village centre. Therefore, only accesses A-56 and A-57 will require construction traffic to route through Cowfold Village centre. As calculated by using data included in Table 5-3 of the **Outline Construction Traffic Management Plan** **[REP1-010]**, the impact of this commitment is the removal of up to 22,000 two-way HGV trips (11,000 HGVs) from Cowfold Village centre over the construction phase.

7.2.7 Whilst commitment C-157 and C-158 (**Commitments Register** **[REP1-016]**) discourages traffic from routeing through the Cowfold AQMA for robustness within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]** and **Chapter 32: ES Addendum** of the ES **[REP1-006]**, it has been assumed that approximately 25% of HGV traffic will route through Cowfold from the A24 and A272 east of the village centre when entering or exiting construction accesses at Oakendene, Kent Street or Wineham Lane. For clarity, this assessment does not reflect the intention of the Applicant to route this level of traffic through the AQMA but provides a robust basis for assessing impacts within the Cowfold.

7.2.8 In relation to construction LGV traffic, these have been split into three categories within the **Outline Construction Traffic Management Plan** **[REP1-010]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-008]** to allow consideration of LGV staff traffic, LGV delivery traffic and LGV construction traffic and provide a robust basis for assessment. Whilst no routing

restrictions have been placed on LGV staff traffic routing to and from the temporary construction compounds and onshore substation at Oakendene (as is normal for staff routing to a place of work), routes have been identified for all LGV delivery traffic and LGV construction traffic. This also assumes that all LGV construction traffic including deliveries will route to one of the temporary construction compounds first and then if needed onto work sites via Multi-Occupancy Vehicles to limit the amount of construction traffic traveling to individual work sites. The movement of LGVs associated with all construction elements of the Proposed Development has therefore been included within assessments provided within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**.

7.2.9 At peak construction, taking account of the construction traffic routing contained within the **Outline Construction Traffic Management Plan** **[REP1-010]** submission, the following effects have been identified for Cowfold:

- At A281 south of Cowfold (Receptor 23):
  - An HGV peak week increase of 12 HGVs per day, equivalent to an increase of 7.5% and approximately one HGV per hour; and
  - A total construction traffic peak week increase of one HGV per day and 71 light goods vehicles (LGVs) per day (5-6 per hour), equivalent to a 1.1% increase in total traffic flow.
- The A281 / A272 in the centre of Cowfold (Receptor 24):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 3.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 154 LGVs (12-13 per hour), equivalent to a 0.7% increase in total traffic flow.
- The A272 Station Road west of Cowfold Village centre (Receptor 25):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 4.6% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 154 LGVs (12-13 per hour), equivalent to a 0.9% increase in total traffic flow.
- The A272 Bolney Road east of Cowfold Village centre (Receptor E):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 5.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 147 LGVs (12-13 per hour), equivalent to a 0.8% increase in total traffic flow.

7.2.10 On this basis **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** concluded that the Proposed Development would not generate any significant effects with the centre of Cowfold.

Highway Capacity

7.2.11 Estimates of peak construction traffic flows for highway links is provided in **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** whilst **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-008]** also details peak construction traffic flows for individual construction accesses.

7.2.12 The peak construction traffic impact on the A272 will be made up of construction traffic accessing the Oakendene Compound (Access A-62) and Substation (Access A-63) in addition to construction traffic travelling to / from construction sites along the onshore cable route. The following construction traffic peaks have been estimated along the A272 corridor:

- At the A272 Bolney Road east of Cowfold Village centre (Receptor E):
  - An HGV peak week increase of 39 HGVs, equivalent to an increase of 5.5% and 3-4 HGVs per hour; and
  - A total construction traffic peak week increase of 19 HGVs and 147 LGVs (12-13 per hour), equivalent to a 0.8% increase in total traffic flow.
- At the A272 Cowfold Road west of the A32 (Receptor F):
  - An HGV peak week increase of 101 HGVs (12.7%) assuming some approximately 25% of all HGVs route through Cowfold and an increase of 140 HGVs (17.5%) if all HGVs avoided Cowfold by routing to / from the east.
  - A total construction traffic peak week increase of 197 total vehicles (1.0%) if approximately 25% of all HGVs route through Cowfold and an increase of 216 total vehicles if all HGVs avoided Cowfold (17.5%) by routing to / from the east.

7.2.13 In addition, the Oakendene Compound (Access A-62) and Substation (Access A-63) are predicted to experience the following peak week construction traffic flows;

- Access A-62 (Oakendene Compound) will cater for 326 HGV two-way movements and 456 LGV two-way movements across a one-week period. This is the equivalent of 156 construction traffic two-way movements per day or 13 per hour. (approximately 6 entering and 6 exiting the compound).
- Access A-63 (Oakendene Substation) will cater for 326 HGV two-way movements and 564 LGV two-way movements across a one-week period. This is the equivalent of 178 construction traffic two-way movements per day or 14-15 per hour (approximately 7 entering and 7 exiting the access junction).

7.2.14 These construction traffic estimates show that at peak construction the Oakendene Compound and Substation access junctions will serve approximately one vehicle in each direction every 8-10 minutes. The Applicant therefore considers that these construction traffic flows will not have a material impact on the operation of the highway network in vicinity of the proposed access junctions.

7.2.15 Furthermore, the **Outline Construction Traffic Management Plan** **[REP1-010]** has as part of its primary objectives to 'keep construction traffic to a minimum during peak network periods to reduce the impact on the highway network' (Paragraph 1.22 of the **Outline Construction Traffic Management Plan**

[REP1-010]). This will be achieved in part by the use of a Delivery Management System which will be used to control the delivery of materials and equipment whilst also minimising the number of construction vehicles on the highway through a booking schedule.

7.2.16 The **Outline Construction Workforce Travel Plan** **[APP-229]** also sets out principles for managing the effects of travel by construction personnel during the construction phase. The **Outline Construction Workforce Travel Plan** **[APP-229]** details measures to maximise the sustainability of travel methods used to get to and from onshore sites, including the use of car sharing and multi-occupancy vehicles to transport workers to compound from cluster locations such as railway stations. However, for assessment purposes it was assumed by the Applicant that no car sharing take place as part of the Proposed Development.

7.2.17 Taking account of the above, the Applicant considers the assessment of the Proposed Development to be robust and appropriate in relation to its impacts on highway capacity.

Highway Safety

7.2.18 The likely significant effects associated with the construction phase of the Proposed Development, including highway safety, have been assessed in **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** and **Appendix 23.2: Traffic Generation Technical Note, Volume 4** of the ES **[REP1-008]**. These assessments, which included a detailed review of accident data on highway links and in the vicinity of proposed access junctions, concluded that the Proposed Development would not generate any significant effects related to highway safety.

7.2.19 Directly in relation to the A272 the Applicant is currently preparing preliminary highway designs for Oakendene Compound (Access A-62) and Substation (Access A-63). These accesses will be designed in accordance with Design Manual for Roads and Bridges (DMRB) and will be subject to an independent Road Safety Audit to ensure that safe access and egress can be achieved by construction traffic. It is the aim of the Applicant to agree a suitable layout for these locations with West Sussex County Council before the end of the examination.

7.2.20 Given that these access junctions will be designed with appropriate visibility splays in accordance with DMRB standards and the peak construction traffic flows detailed in **paragraph 7.2.13** the Applicant does not consider traffic signals to be necessary to support safe access and egress from Oakendene Compound or Substation.

7.2.21 Section 5.3 of the **Outline Code of Construction Practice** **[PEPD-033]** details the practical measures and monitoring procedures that will be implemented to manage the impact of dust in construction areas. This includes implementing a wheel wash system with rumble grids to dislodge accumulated dust and mud, prior to leaving site, where reasonably practicable.

CTMP and Traffic Generation Technical Note

7.2.22 The Applicant notes that the IP has made several comments regarding details contained within the **Outline Construction Traffic Management Plan [REP1-010]** and **Appendix 23.2: Traffic Generation Technical Note assessment, Volume 4** of the ES **[REP1-008]**.

7.2.23 The **Outline Construction Traffic Management Plan [REP1-010]** has been updated to include the following, which responds to comments raised by the IP:

- Table 5-3 provides a summary of total HGV traffic flow at all construction access junctions associated with the Proposed Development. For clarity accesses A-51, A-54, A-58 and A-59 are for operational purposes only and therefore will not be used during the construction stage;
- Table 6-2 provides a summary of total HGV traffic flow at all construction access junctions associated with the Proposed Development For clarity accesses A-51, A-54, A-58 and A-59 are for operational purposes only and therefore will not be used during the construction stage;
- An update to paragraph 4.8.1 to provide clarification that Light Goods Vehicles (LGVs) refers to Goods Vehicles which are less than 3.5 tonnes (T) and Heavy Goods Vehicles (HGVs) refers to Good Vehicles that are heavier than 3.5 T;
- An update to Table 5-1 to provide further clarification on HGV traffic routing;
- An update to the core working hours has been made to reflect updates made to commitment C-22 (Commitments Register [REP1-015]) provided at Deadline 1 submission. This stages that:
  - Core working hours for construction of the onshore components will be 08:00 to 18:00 Monday to Friday, and 08:00 to 13:00 on Saturdays. Apart from specific circumstances that are set out in the Outline COCP, where extended and continuous periods of construction are required.
  - Prior to and following the core working hours Monday to Friday, a 'shoulder hour' for mobilisation and shut down will be applied (07:00 to 08:00 and 18:00 to 19:00). The activities permitted during the shoulder hours include staff arrivals and departures, briefings and toolbox talks, deliveries to site and unloading, and activities including site and safety inspections and plant maintenance. Such activities shall not include noise generating activity including use of heavy plant or activity resulting in impacts, ground breaking or earthworks.
- Corrections to Appendix A in relation to accommodation works required for individual accesses.
- Construction traffic routing shown on Figure 7.6.6, 7.6.9 and 7.6.13 has been updated to reflect that construction traffic will not use Kent Street south of access A-61 with all construction traffic instead using the A272 to the north.

7.2.24 **Appendix 23.2: Traffic Generation Technical Note assessment, Volume 4** of the ES **[REP1-008]** has been updated to include the following, which responds to comments raised by the Interested Party:

- Updates to baseline and future baseline traffic data to reflect additional links (including Kent Street) assessed within **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**.
- An update of total construction traffic flows at each access junction provided in Table 6-6.
- Further details of peak week construction traffic estimates included in Section 6.5.
- Inclusion of peak construction traffic flows at each access junction and at all receptors assessed within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, and **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]**.

7.2.25 The Applicant recommends that the Interested Party's reviews these documents in relation the queries raised in their Written Representation.

7.3 Storrington and Cowfold Air Quality Management Areas

7.3.1 **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** presents an assessment of air quality effects from construction traffic associated with the Proposed Development. The assessment concluded that the Proposed Development will not result in significant air quality effects, as a result of increased traffic on the local road network. Table 19-9 within **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]** states that there will be no significant traffic travelling through the Storrington High Street Air Quality Management Area (AQMA) and that Annual Average Daily Traffic (AADT) along the Storrington High Street AQMA are below the IAQM and EPUK 92017) screening criteria for road links in AQMA's, therefore potential effects are negligible. The Applicant has assessed effects on the Cowfold AQMA as negligible in **Chapter 19: Air quality, Volume 2** of the ES **[APP-060]**.

7.3.2 The likely significant transport effects of the construction phase of the Proposed Development have been assessed within **Chapter 23: Transport, Volume 2** of the ES **[APP-064]**, **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** (submitted at Deadline 1) and in **Appendix 23.2: Traffic Generation Technical Note assessment, Volume 4** of the ES **[REP1-008]** which has been updated at the Deadline 1 submission. Based on the peak week sensitivity test used within **Chapter 32: ES Addendum, Volume 2** of the ES **[REP1-006]** (submitted at Deadline 1) the A283 north east of Sullington Lane (receptor O) will experience the following traffic increases during the construction phase of the Proposed Development:

- A heavy goods vehicle (HGV) peak week increase of 51 HGVs per day or 4-5 vehicles per hour, which is an increase of 6.3%; and
- An overall construction traffic increase of 51 HGVs and 86 light goods vehicles (LGVs) per day or 11-12 construction traffic vehicles per hour, which is an overall traffic flow increase of 0.6%.

7.3.3 Noting the very low baseline traffic flows and taking account of appropriate embedded environmental measures (such as the **Outline Construction Traffic Management Plan** **[REP1-010]** secured via Requirement 24 of the **Draft**

Development Consent Order **[PEPD-009]**), no significant environmental effects have been identified on the A283.

7.4 Concerns regarding restricted access

7.4.1 Mindful of residents' concerns, the Applicant updated the **Outline Code of Construction Practice** **[PEPD-033]** at the Pre-Examination Deadline. Additional detail has been provided at Section 5.7.10 to explain how construction and access will be managed. In summary:

- Access restrictions will be kept to a minimum, with a diversion provided if possible;
- Contractors will work with local stakeholders and accommodate reasonable requests for access;
- The trench will be covered outside of working hours, and access will be restored in emergencies; and
- Closures will be communicated to local residents in advance.

7.4.2 The Applicant is willing to discuss appropriate and reasonable mitigation measures across the property during construction. Measures within the stage specific Code of Construction Practice are secured through requirement 22 of the **Draft Development Consent Order** **[PEPD-009]**.

7.5 Impact on coastal processes

7.5.1 The Interested Party states support for CPRE Sussex's Relevant Representation relating to impacts on coastal processes, please see the Applicant response to CPRE Sussex in Table 7-4, **Deadline 1 Submission – 8.24 Applicant's Response to Relevant Representations** **[REP1-017]**.

7.6 Additional pressure on designated Nature Reserves and conservation areas

7.6.1 As noted in Table 9-6 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**: The onshore landfall proposed Order Limits overlaps with Climping SSSI. However, this is to allow for an area of HDD works, which will be underneath the cliff face and the intertidal area. It will not be on the surface of the beach. The overlap with the proposed Order Limits has not been removed, to allow space for the HDD. Potential indirect effects to features have been assessed within Section 9.9 of **Chapter 9: Benthic, subtidal and intertidal ecology, Volume 2** of the ES **[APP-050]**.

7.6.2 **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]** assesses the potential effects on the Climping Beach SSSI and its cited features; namely its shingle vegetation, semi-fixed dune community, fixed dune community and non-breeding population of sanderling. No works will take place within the offshore environment closer than 60m from the SSSI boundary and construction works onshore will be at least 200m from it. There are a range of

commitments that allow for the control of indirect effects from the land fall such as commitment C-76 (implementation of pollution prevention plans) to control risks of loss of pollutants (including dust) and C-217 (restriction of winter working) to prevent disturbance of sanderling, these are secured via the **Outline Code of Construction Practice** **[PEPD-033]** through Requirement 22 of the **Draft Development Consent Order** **[PEPD-009]** (see **Commitments Register** **[REP1-015]**). The design of the Proposed Development and the measures to minimise and mitigate effects results in no significant effects on either Climping Beach SSSI or ancient woodland being predicted in **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**. The Applicant can confirm that there will be no direct impacts to the Climping Beach SSSI and Worthing Lumps Local Wildlife Site (LWS). Access to these areas by works vehicles or equipment will not be required.

7.6.3 Impacts on birds, bats, reptiles are assessed following relevant legislation and best practice in:

- **Chapter 12: Offshore and intertidal ornithology, Volume 2** of the ES **[APP-053]**; and
- **Chapter 22: Terrestrial ecology and nature conservation, Volume 2** of the ES **[APP-063]**.

7.6.4 The **Outline Landscape and Ecology Management Plan** **[APP-232]** include relevant embedded environmental measures and is secured via Requirement 12 of the **Draft Development Consent Order** **[PEPD-009]**.

7.6.5 The ES assessments undertaken have concluded that no significant effects on terrestrial ecology or ornithology are likely to occur as a result of the Proposed Development alone or with other relevant projects or plans taking account of environmental measures embedded into the design of the Proposed Development and secured through the requirements referred to above. Similarly, the **Report to Inform Appropriate Assessment** **[APP-038]** concludes that there will be no adverse effect to any of the protected sites assessed.

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