

# **Rampion 2 Wind Farm Category 8: Examination Documents**

## **Outline Noise and Vibration Management Plan (clean)**

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Revision B**

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## Document revisions

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A	25/04/2024	Final for Deadline 3 submission.	WSP	RED	RED
B	09/07/2024	Deadline 5 update including: updates to commitments, inclusion of new commitment C-302, update to Section 3.8 on predicted sound level following detailed design and updates to section 5.5, 6.1 and 6.2.	WSP	RED	RED

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# Executive summary

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This Outline Noise and Vibration Management Plan (NVMP) (Document Reference: 8.60) has been prepared as an appendix to the **Outline Code of Construction Practice (CoCP) [PEPD-033]** to provide the measures to manage the impact on noise and vibration for the onshore elements of the Proposed Development. This is part of a suite of plans supporting onshore construction works for Rampion 2.

This Outline NVMP sets out the management measures related to noise and vibration that will apply to all works carried out within the onshore part of the proposed DCO Order Limits, landward of Mean High Water Springs (MHWS). The works are described in Environmental Statement (ES) **Chapter 4: The Proposed Development, Volume 2 of the ES [APP-045]**.

Stage specific NVMPs will be produced by the appointed Contractor(s) following the grant of the Development Consent Order (DCO) and prior to the relevant stage of construction. The stage specific NVMPs will include detail on how commitments in the Outline NVMP are to be delivered where a commitment is applicable to that stage of works. This will be produced in accordance with this Outline NVMP for approval of the relevant planning authority as part of the stage specific CoCP.

# 1. Introduction

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## 1.1 Overview of the Proposed Development

- 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<sup>2</sup>.
- 1.1.3 The key offshore elements of the Proposed Development will be as follows:
- up to 90 offshore wind turbine generators (WTGs) and associated foundations;
  - blade tip of the WTGs will be up to 325m above Lowest Astronomical Tide (LAT) and will have a 22m minimum air gap above Mean High Water Springs (MHWS);
  - inter-array cables connecting the WTGs to up to three offshore substations;
  - up to two offshore interconnector export cables between the offshore substations; and
  - up to four offshore export cables each in its own trench, will be buried under the seabed within the final cable corridor; and
  - the export cable circuits will be High Voltage Alternating Current (HVAC), with a voltage of up to 275kV.
- 1.1.4 The key onshore elements of the Proposed Development will be as follows:
- a single landfall site near Climping, Arun District, connecting offshore and onshore cables using Horizontal Directional Drilling (HDD) installation techniques;
  - buried onshore cables in a single corridor for the maximum route length of up to 38.8km using:
    - ▶ trenching and backfilling installation techniques; and
    - ▶ trenchless and open cut crossings.
  - a new onshore substation, proposed near Cowfold, Horsham District, which will connect to an extension to the existing National Grid Bolney substation, Mid Sussex, via buried onshore cables; and
  - extension to and additional infrastructure at the existing National Grid Bolney substation, Mid Sussex District to connect Rampion 2 to the national grid electrical network.

- 1.1.5 A full description of the Proposed Development is provided in **Chapter 4: The Proposed Development, Volume 2** of the Environmental Statement (ES) [APP-045].

## 1.2 Purpose

- 1.2.1 This Outline Noise and Vibration Management Plan (NVMP) (**Document Reference: 8.60**) is included as Appendix E to the **Outline Code of Construction Practice (CoCP) [PEPD-033]**. This Outline NVMP (**Document Reference: 8.60**) sets out the noise and vibration management measures and procedures that will be implemented by RED and its appointed contractors during construction of onshore works (landward of High Water Springs (MHWS)) and should be read in conjunction with the **Outline Code of Construction Practice [PEPD-033]** (updated at Deadline 3) and its supporting appendices. The works are described in **Chapter 4: The Proposed Development, Volume 2** of the ES [APP-045]. The measures within this Outline NVMP are informed by the assessment reported in **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018] and **Chapter 32: ES Addendum, Volume 2** of the ES [REP1-006].
- 1.2.2 The Outline NVMP details the noise and vibration control measures for onshore work activities associated with the above- and below-ground construction activities. The Outline NVMP is not considered to apply to offshore construction activity (with the exception of the complaint investigation process in **Section 6** which is relevant for onshore noise-sensitive receptors).
- 1.2.3 The Outline NVMP (**Document Reference: 8.59**) is part of a set of management plans provided, securing the delivery of measures committed to in the Application to manage the impacts arising during the construction phase of the Proposed Development. The **Outline Code of Construction Practice [PEPD-033]** (updated at Deadline 3) sets out the embedded environmental measures to be applied during the construction phase which is accompanied by topic specific plans including this Outline NVMP providing further detail. The Outline NVMP applies to the onshore construction works for the Proposed Development where noise and vibration effects will arise including:
- the onshore cable corridor and associated temporary construction works;
  - construction of permanent infrastructure including the onshore transmission cables, transition joint bay, joint bays, and link boxes;
  - temporary construction working areas including trenchless crossing compounds, main temporary construction compounds and accesses; and
  - the construction of the onshore substation at Oakendene and existing National Grid Bolney substation extension.
- 1.2.4 This Outline NVMP (**Document Reference: 8.60**) is an outline document that, by reference to the assessments reported in the ES, sets out the key embedded environmental measures that will be provided in stage specific NVMPs for the approval of the relevant planning authority. The stage specific NVMPs are secured through Requirement 22 (4) (g) of the **Draft Development Consent Order [REP2-002]** (updated deadline 3).

- 1.2.5 The works shall be undertaken in accordance with stage-specific NVMPs to manage the effects of construction noise and vibration. Where necessary this will include monitoring procedures which identify both elevated levels and review complaints, should they arise. The complaints management procedure including the management responsibilities will also be addressed.
- 1.2.6 The roles and responsibilities for implementation are set out in Section 2.4 of the **Outline Code of Construction Practice [PEPD-033]** (updated at Deadline 3), as per the **Draft Development Consent Order [REP2-002]** Requirement 22.
- 1.2.7 The Outline NVMP (**Document Reference: 8.60**) includes:
- Legislation and guidance (**Section 2**);
  - Management measures (**Section 3**);
  - Noise predictions (**Section 4**);
  - Vibration (**Section 5**);
  - Compliance and monitoring (**Section 6**); and
  - Communication, management and complaints (**Section 7**).

## 2. Legislation, policy and guidance

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- 2.1.1 Construction activity by its very nature can generate adverse noise and vibration impacts on noise sensitive receptors in close proximity to the development site. In particular, noise and vibration associated with construction plant and drilling equipment are potential sources for adverse noise and vibration effects.
- 2.1.2 The Contractor(s) will be required to control and limit noise and vibration levels, so far as is reasonably practicable and to minimise disturbance to sensitive receptors.
- 2.1.3 The following legislation and standards are applicable to the control of noise and vibration during construction:
- *Environmental Protection Act 1990 (as amended);*
  - *Control of Pollution Act 1974 (CoPA 1974); and*
  - *British Standard (BS) 5228 'Code of practice for noise and vibration control on construction and open sites', Part 1: Noise (+A1:2014), and Part 2: Vibration (+A1:2014).*
- 2.1.4 The main objectives with regard to managing construction noise are to:
- *Comply with relevant legislation and standards relating to construction noise and the requirements of the DCO; and*
  - *To control and limit noise and vibration levels, so far as is reasonably practicable and to minimise disturbance to residents and sensitive receptors.*
- 2.1.5 For the purposes of assessing impacts associated with construction induced vibration, the guidance within BS5228 has been used to derive reasonable limits. Where vibration levels are predicted to exceed 'just perceptible' levels, appropriate mitigation measures would need to be introduced to control the effects.



## 3. Management measures

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- 3.1.1 This section outlines required management measures and mitigation to ensure onshore construction works are conducted in a way that removes or reduces effects in respect to noise and vibration receptors. The framework for determination of construction noise and vibration significance as reported in **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018] methodologies for prediction and measures to mitigate impacts are drawn BS 5228-1:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites. Part 1: Noise* (BSI, 2014a), and BS 5228-2:2009 + A1:2014 *Code of practice for noise and vibration control on construction and open sites. Part 2: Vibration* (BSI, 2014b).
- 3.1.2 These best practice measures will be employed to reduce noise above the Lowest Observable Adverse Effect Level (LOAEL) as defined in the Noise Policy Statement for England (Department for Environment, Food and Rural Affairs (Defra), 2010). Screening, or other additional mitigation, will be employed to avoid noise above the Significant Observable Adverse Effect Level (SOAEL). These are reported in the **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018].
- 3.1.3 Where BS 5228 (BSI, 2014a; 2014b) thresholds are predicted to be exceeded (with reference to Table 21-23 of **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018]) in **Section 4** of this document, there will be a quantification of the reductions needed to achieve the required thresholds and commitments to show how this will be achieved in practice.

### 3.2 General site management

- 3.2.1 The Contractor(s) will ensure that all construction work areas will be arranged to reduce as far as practicable the environmental impacts having due regard to the constraints for each site, for example:
- storage sites, temporary offices, fixed plant and machinery will be positioned appropriately (e.g. away from sensitive receptors).
  - appropriate speed limits will be imposed on construction compounds, haul roads and access tracks.
  - noise generating activities will be sited away from noise-sensitive receptors where practicable.

#### Noise and Vibration Management

- 3.2.2 Stage specific NVMP's will be produced by the appointed Contractor(s) following the grant of the Development Consent Order (DCO) and prior to the relevant stage of construction. This will be produced in accordance with this Outline NVMP for approval of the relevant planning authority as part of the stage specific CoCP.

- 3.2.3 The NVMP will apply throughout construction and will detail the objectives for managing and minimising construction noise and vibration on site and at the nearest noise sensitive receptors (NSRs).
- 3.2.4 The NVMP will detail the approach to minimising noise and vibration in the construction of onshore assets and will incorporate Best Practicable Means (BPM) (as defined by CoPA 1974) to minimise any associated noise and vibration impacts.
- 3.2.5 The NVMP will be developed on the basis of the confirmed list of plant and equipment proposed by the Contractor(s) prior to construction. Development of the NVMP will include a review of specific construction activities proposed by the Contractor(s) and the identification of the pertinent NSRs.

### Good Practice Measures

- 3.2.6 The embedded mitigation and engineered construction measures that the Contractor(s) will adopt (as appropriate to the planned works) to minimise noise during construction include:
- no crushing works at any time at any mobilisation area, without prior written consent of the relevant planning authority;
  - locating noisy temporary plant so that it is screened where possible from receptors by on-site structures, such as site cabins;
  - applying enclosures to particularly noisy equipment / plant;
  - designing the traffic routes within construction areas in order to avoid heavy vehicle, or plant, reversing, where practicable;
  - fitting of low-noise reversing warnings to heavy vehicles and items of plant;
  - using modern, quiet equipment and ensuring equipment is properly maintained and operated by trained staff;
- 3.2.7 The construction best practice measures that the that Contractor(s) will adopt (as appropriate to the planned works) to minimise noise during construction include:
- ensure avoidance of unnecessary engine revving;
  - ensure all vehicle movements occur within normal hours or at agreed times, taking into account the primary function of sensitive receptors in the vicinity (e.g. avoiding school drop-off / pickup periods);
  - maximise the reuse of any waste/material arising on site to minimise vehicle movements;
  - plan deliveries and vehicle movements so that vehicles are not waiting or queuing on the public highway. If waiting or queuing is unavoidable, then engines should be turned off;
  - minimise opening and closing of site access through good co-ordination of deliveries and vehicle movements;
  - reporting any defective equipment / plant as soon as possible so that corrective maintenance can be undertaken;

- ensuring that mobile plant is well maintained such that loose body fittings or exhausts do not rattle or vibrate;
- ensuring plant machinery is turned off when not in use;
- any plant found to be requiring interim maintenance to be taken out of use;
- where practicable, noisy works should be interspersed between quieter works to provide periods of respite;
- where practicable, the works should be phased to ensure that the noisiest operations are performed during the least sensitive times;
- minimising the duration of the works is generally beneficial, if higher noise levels may result in a significant reduction in the overall duration of the works this should be considered;
- designated site-based staff shall have the authority to take the steps necessary on behalf of the Contractor(s) to ensure noise and vibration is adequately controlled and managed;
- locate the site access away from noise sensitive receptors where practicable;
- keep internal haul routes well maintained and avoid steep gradients;
- reduce loading / unloading heights for muck away and material movement to mitigate impact noise; and
- handle all material in a manner that minimises noise.

3.2.8 All site staff are to be briefed on their responsibilities with respect to management of construction noise and vibration and the requirements of the DCO, the **Outline Code of Construction Practice [PEPD-033]** and other legal requirements including best practice and the application of BPM and any associated Section 61 consent. The performance of the training should then be regularly reviewed and repeated throughout the construction programme as appropriate.

3.2.9 Additional site-specific mitigation measures will be detailed in the stage specific NVMP as required based on the Contractor(s) detailed design or following substantiated complaints as outlined in **Sections 5 and 6**.

### 3.3 Working hours

3.3.1 Working hours are defined in Section 4.4 of the **Outline Code of Construction Practice [PEPD-033]** (updated at Deadline 3). 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 (and reproduced below in **paragraph 3.3.3**), where extended and continuous periods of construction are required.

3.3.2 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 between objects resulting in loud noises, ground breaking or earthworks.

3.3.3 Paragraph 4.4.2 of the **Outline Code of Construction Practice [PEPD-033]** states that:

- *No activity outside these hours including Sundays, public holidays or bank holidays will take place apart from under the following circumstances:*
  - *where continuous periods (up to 24 hours, 7 days per week) of construction work are required for Horizontal Directional Drilling (HDD);*
  - *for other works requiring extended working hours such as concrete pouring which will require the relevant planning authority to be notified at least 72 hours in advance;*
  - *for the delivery of abnormal loads to the connection works, which may cause congestion on the local road network, and will require the relevant highway authority to be notified at least 72 hours in advance; or*
  - *as otherwise agreed in writing with the relevant planning authority.*

### 3.4 Construction Plant Mitigation

3.4.1 Careful scrutiny of plant selection at procurement stage will ensure that the potential noise impact of construction activities is reduced as much as is reasonably possible. General plant considerations are as follows:

- ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC, United Kingdom Statutory Instruments (SI) 2001/1701;
- fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer;
- follow manufacturer's guidance and instructions in relation to operation of plant and equipment, and use in a manner which minimises noise;
- use all plant and equipment only for tasks for which it has been designed; and
- shut down all plant and equipment in intermittent use in the intervening periods between works or throttle it down to a minimum.

### 3.5 Localised screening and temporary noise barriers

3.5.1 Temporary noise barriers and localised screening will be installed as appropriate within the proposed DCO Order Limits to further reduce noise emissions in proximity to NSRs. The need will be determined based on the confirmed list of plant and equipment and construction programme and the predicted noise levels assessed in accordance with Table 21-23 of **Chapter 21: Noise and vibration, Volume 2** of the ES **[PEPD-018]**.

3.5.2 The exact specification of any noise barriers will be determined during detailed design and described in the stage specific NVMP.

- 3.5.3 Noise barriers will have an appropriate specification for the location and noise reduction required. As an example of the relative effectiveness of applying a temporary localised noise barrier BS 5228 (BSI, 2014a; 2014b) states: “...as a working approximation, if there is a barrier or other topographic feature between the source and the receiving position, assume an approximate attenuation of 5 dB when the top of the plant is just visible to the receiver over the noise barrier, and of 10 dB when the noise screen completely hides the sources from the receiver. High topographical features and specifically designed and positioned noise barriers could provide greater attenuation.”

## 3.6 Trenchless crossings

- 3.6.1 HDD for trenchless crossings requires continuous working, including overnight, and will require acoustic screening, where identified in **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018] as per commitment C-26 (see **Table 3-3**) and to be reviewed as part of the production of the stage specific NVMP. Mitigation measures for this activity will include the following:

- HDD drills will have the majority of its componentry within acoustic cladding, with associated acoustic louvres; and
- mud pumps will be housed in temporary water-proof acoustic shrouds.

- 3.6.2 The exact specification of any acoustic shroud or enclosure that may be required will be determined during detailed design.

## 3.7 Statutory nuisance

- 3.7.1 Article 8 of the **Draft Development Consent Order [REP2-002]** (updated at Deadline 3) provides for the following with respect to defence to proceedings in respect of statutory nuisance:

*(1) Where proceedings are brought under section 82(1) of the Environmental Protection Act 1990(a) (summary proceedings by persons aggrieved by statutory nuisances) in relation to a nuisance falling within section 79(1) of that Act (statutory nuisances and inspections therefor) no order may be made, and no fine may be imposed, under section 82(2) of that Act (summary proceedings by persons aggrieved by statutory nuisances) if—*

*(a) the defendant shows that the nuisance—*

*(i) relates to premises used by the undertaker for the purposes of or in connection with the construction, maintenance or decommissioning of the authorised project and that the nuisance is attributable to the carrying out of the authorised project in accordance with a notice served under section 60 (control of noise on construction sites) or a consent given under section 61 (prior consent for work on construction sites) of the Control of Pollution Act 1974(b); or*

*(ii) is a consequence of the construction, maintenance or decommissioning of the authorised project and that it cannot reasonably be avoided; or*

*(b) the defendant shows that the nuisance—*

*(i) relates to premises used by the undertaker for the purposes of or in connection with the use of the authorised project and that the nuisance is attributable to the use of the authorised project in compliance with requirement 29 (control of noise during operational phase); or*

*(ii) is a consequence of the use of the authorised project and that it cannot reasonably be avoided.*

*(2) Section 61(9) of the Control of Pollution Act 1974(c) does not apply where the consent relates to the use of premises by the undertaker for purposes of or in connection with the construction, maintenance or decommissioning of the authorised project.*

### **3.8 Review of predicted sound levels following detailed design**

- 3.8.1 Following detailed design, all predictions of noise and where required, vibration levels, will be reviewed at all representative sensitive receptors.
- 3.8.2 Calculations will follow the methodology in BS 5228-1:2009+A1:2014 for noise and BS 5228-2:2009+A1:2014 for vibration (British Standard Institute, 2014a; 2014b). This will consider stages and duration of works, and will consider any cumulative effect with nearby works.
- 3.8.3 Any changes to mitigation required to minimise noise and vibration during the works will be identified and included in the stage specific NVMP. The requirement for noise and vibration monitoring during for each stage will be agreed with the relevant planning authority and provided in the stage specific NVMP including details of duration of monitoring, measurement locations relative to each work site, suitable trigger levels and actions, form and frequency of reporting.
- 3.8.4 Proposals for the notification of receptors affected by the works and dissemination of communications and complaint management will be provided in accordance with the **Outline Construction Communications Plan** (Document Reference: 8.86, submitted at Deadline 5).

### **3.9 Applications for consent under Section 61 of the Control of Pollution Act 1974**

- 3.9.1 No significant residual construction noise and vibration effects are predicted based on the planned construction working hours and employment of the embedded environmental measures as reported in **Chapter 21: Noise and vibration, Volume 2** of the Environmental Statement [**PEPD-018**]. As per Section 4 and C-264 (see Table 3-3), revised predictions will be provided based on detailed design including updated plant lists..
- 3.9.2 Where a Section 61 application is considered appropriate, prior to the commencement of the relevant works, meetings would be sought, where required, with the local authorities to discuss the construction activities to be included in the Section 61 application and any potential mitigation.



- 3.9.3 The Contractor(s) will be required to submit any applications for Section 61 consents, variations and dispensations under CoPA 1974.
- 3.9.4 Activities that typically do not require a Section 61 consent include those activities that would occur within the specified construction working hours (as outlined in **Section 3.3**) for the Project.
- 3.9.5 In cases where there is a change of working method or procedure to those assumed for the noise and vibration assessment presented in **Chapter 21 Noise and vibration, Volume 2** of the Environmental Statement (ES) [**PEPD-018**] that could result in a significant noise impact, a revised noise and vibration assessment will be undertaken and appropriate mitigation identified and provided in the stage specific NVMP.
- 3.9.6 The potential for significant noise and/or vibration effects, is defined against the following criteria:
- Activities that are in one location (within a 300m radius of a receptor) longer than 10 consecutive days (especially night-time) and are predicted to be above the threshold of significance in any of the time periods during which work is required,
  - Activities that are in one location (within a 300m radius of a receptor) for two or more consecutive days and are predicted to be 10dB or more above the noise threshold of significance in any of the time periods during which work is required,
  - Vibratory works, (such as vibro-compaction) within 20m of a residential property.
  - Highly vibratory works (such as impact piling) within 100m of a residential property.
- 3.9.7 Where a Section 61 consent is to be sought the contractor will provide the following, unless otherwise agreed with the relevant planning authority:
- an outline of the proposed construction methods, types and numbers of plant to be used;
  - definition of the working hours required and, where these differ from the working hours (detailed in in Section 3.3 of this document and Section 4.4 of the **Outline Code of Construction Practice [REP4-043]**), a justification of the hours sought;
  - a work programme which identifies the location and duration of each significant noise and/or vibration generating activity;
  - the sound power levels, or sound pressure level at 10m, for each item of plant for each relevant activity;
  - appropriate (in terms of noise/vibration level, duration and working hours) justification that the method and plant proposed demonstrates that Best Practical Means (BPM) has been employed to control noise and vibration impacts;

- predicted noise and vibration levels at specified locations supported by calculations following the methodology in BS 5228-1:2009+A1:2014 for noise and BS 5228-2:2009+A1:2014 for vibration (British Standard Institute, 2014a; 2014b) and the likely effects of these levels on affected noise and/or vibration - sensitive receptors and the likely durations of these effects;
- all steps to be employed to minimise noise and vibration during the works;
- proposals for any noise and vibration monitoring considered necessary including frequency, locations relative to each work site, reporting proposals etc.; and
- proposals for the notification of receptors affected by works, and dissemination of communication management and complaint management plan information relevant to the works.

3.9.8 The number, extent (geographically and in terms of construction activities) and duration of Section 61 applications will be the subject of consultation between the Contractor(s) and each relevant local authority.

3.9.9 Lead in times will be agreed with the local authorities in advance of the applications being submitted and a format for the applications will be agreed prior to the first application being made. This is to ensure appropriate information is provided in a timely manner. The local authorities are required to inform the applicant of their decision within the statutory 28 days of the application being received. If this does not occur, then there is an appeals process.

3.9.10 Agreement of proposed measures will be sought from the relevant local authority through Section 61 consent, dispensation or variation applications.

### **3.10 Unscheduled overruns**

3.10.1 In the event that planned works extend beyond the working hours described in Section 3.3, or are not covered by an NVMP or prior consent (either a full Section 61 application or dispensation/variation) e.g. due to unforeseen circumstances that would affect safety or engineering practicability, the relevant local authority will be kept informed of the nature, time, location and reasons for the overrun as soon as possible, and records kept by the Contractor(s).

3.10.2 The relevant local authority will be requested to provide a telephone number and nominate an office to receive such notifications. Overruns and the reasons for these will be reviewed by RED, its Contractor(s) and the relevant local authority, with the aim of reducing the potential for further unplanned overruns.

3.10.3 In the case of work required in response to an emergency (or which, if not completed, would be damaging or unsafe), the relevant local authority will be advised as soon as is reasonably practicable of the reasons for, and likely duration of, such works.



### 3.11 Commitments

- 3.11.1 **Table 3-1** details commitments specific to noise and vibration that will be secured through this Outline NVMP. Further information on specific management measures and their implementation is also provided in **Sections 3.2 to 3.10**.

**Table 3-1 Commitments relevant to noise and vibration**

Commitment ID	Embedded environmental measure proposed
<b>C-10</b>	No blasting is anticipated to be required and trenchless crossings will be undertaken by non-impact methods.
<b>C-22</b>	<p>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.</p> <p>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 between objects resulting in loud noises, ground breaking or earthworks.</p>
<b>C-26</b>	<p>Where noisy activities are planned and may cause disturbance, the use of mufflers, acoustic barriers (or shrouds) and other suitable solutions will be applied.</p> <p>For HDD work sites near to noise sensitive receptors where predicted levels may exceed the BS 5228 thresholds of significance, mud pumps that operate overnight will be shrouded and the drill will be fitted with acoustic (i.e. high mass) panelling and louvres as well as engine silencers where diesel powered drills are used.</p>
<b>C-33</b>	Stage specific CoCPs will include measures to minimise temporary disturbance to residential properties, recreational users and existing land users. It will include details of measures to protect these receptors <u>including the use of screen fencing at the temporary construction compounds to contribute to minimising visual and noise impacts.</u>
<b>C-160</b>	Highways condition surveys will be undertaken before, during and after the construction phase. Any damage to highways as a result of Rampion 2 construction heavy goods vehicles (HGVs) on the

Commitment ID	Embedded environmental measure proposed
	highways will be repaired. Further detail will be included within the Outline Construction Traffic Management Plan (CTMP).
<b>C-263</b>	During detailed design, the contractor will review the construction noise assessments. Where any significant deviation from the initial sound level predictions is identified, such that levels in excess of the BS 5228 thresholds of significance, the Noise and Vibration Management Plan (NVMP) shall identify the necessary mitigation to avoid this. If necessary, a Section 61 application will be made to the relevant Local Planning Authority.
<b>C-287</b>	For the duration of the relevant stage of construction, south of Lyminster and west of the A284 Lyminster Road, an enhanced acoustic barrier will be installed on the southern edge of the works, north of Brookside caravan park. The barrier will be of a suitable dimension and sited appropriately to manage noise impacts on the caravan park.
<b>C-302</b>	<p>The requirement for noise and vibration monitoring during construction shall be identified on a stage specific basis and agreed with the relevant planning authority. Where required, the stage specific NVMP shall provide the details of noise and vibration monitoring including identification of sensitive receptors, ongoing continuous monitoring and form and frequency of reporting. The stage specific NVMP shall be submitted to and approved by the relevant planning authority.</p> <p>The scheme shall be developed by suitably qualified persons and shall include suitable trigger levels in accordance with the “ABC method” (Table E.1) of BS 5228:2014 +A1:2019 “<i>Code of practice for noise and vibration control on construction and open sites – Part 1: Noise</i>”. The stage specific NVMP will provide remedial actions, including review of mitigation, should trigger levels be reached.</p>

## 4. Noise predictions

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- 4.1.1 Noise predictions are presented in Section 21.9, Tables 21-27 to 21-34, of **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018]. These were assigned significance with respect to the Magnitude of Change criteria for the project reported in Table 21-23 of **Chapter 21: Noise and vibration, Volume 2** of the ES [PEPD-018].
- 4.1.2 Updated construction noise predictions will be undertaken following design progression, and the stage specific NVMP will be populated with new unmitigated and mitigated predictions as these are available. The mitigation shall be detailed in the NVMP.
- 4.1.3 Noise predictions will be presented by activity, deriving the sound power for that activity at the closest noise-sensitive receptors.

## 5. Compliance monitoring

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- 5.1.1 The stage specific NVMP will set out the methodologies and competency requirements for noise and vibration monitoring during construction where required, along with instrumentation and measurement standards that such monitoring would need to be undertaken in line with.
- 5.1.2 Construction noise and/or vibration monitoring may be required if, for example, Section 61 consent is sought, complaints are received, or as required in discussion with the relevant planning authority. The requirement for noise and vibration monitoring will be identified by the Contractor(s) based on the confirmed list of plant and equipment and construction programme and a monitoring framework will be provided in the stage specific NVMP.
- 5.1.3 Descriptions of measures likely to be associated with construction noise monitoring are provided below.
- 5.1.4 Any construction monitoring regime will be agreed with the relevant planning authority and details included in the stage specific NVMP. Any personnel undertaking noise and vibration monitoring shall be able to demonstrate their competency for the task and are expected, as a minimum, to be a member of the Institute of Acoustics.
- 5.1.5 Management measures associated with construction noise and/or vibration monitoring are as follows:
- establish pre-existing levels of ambient noise;
  - carry out attended noise and/or vibration monitoring at the start of any new phase of works or following any complaints, to check source emission data from plant on-site;
  - carry out regular on-site observation monitoring and checks / audits to ensure that BPM is being employed at all times. Such checks should include:
    - ▶ hours of working;
    - ▶ presence of mitigation measures, equipment, and screening;
    - ▶ number and type of plant;
    - ▶ construction methods; and
    - ▶ where applicable any specific Section 61 consent conditions;
  - site reviews should be logged, and remedial actions recorded.
- 5.1.6 Where temporal thresholds are at risk of exceedance and predicted, mitigated, activity sound levels are within 5dB of trigger levels at a sensitive receptor, the NVMP will identify where compliance monitoring should be sought including durations and frequency of reporting.
- 5.1.7 Generally, the approach to monitoring will be as described in **Sections 5.2 to 5.5**.

## 5.2 Onshore substation and Temporary Construction Compounds

- 5.2.1 Where the need for monitoring is identified, it will be established at locations representative of the nearest sensitive receptors.
- 5.2.2 A mechanism alerting the Contractor(s) that noise and/or vibration levels above thresholds of significance are likely at receptors will be employed. This will allow the Contractor(s) to identify any particularly noisy or vibratory activities as they occur and alter the works, where possible, or identify additional mitigation requirements.

## 5.3 Trenchless crossings

- 5.3.1 Vibration monitoring will only be carried out in response to complaints, or as a requirement of s61 agreement.
- 5.3.2 At the first instance of any activity where night works are required for the duration of the works in an area, noise monitoring will be carried out at a location representative of nearby sensitive receptors.
- 5.3.3 Noise monitoring will only be carried out for daytime activity near worksites where noise predictions are above (or no less than 3 dB below) the daytime threshold of significance.
- 5.3.4 A mechanism alerting the Contractor (s) that noise levels above thresholds of significance are likely at receptors will be employed. This will allow the Contractor(s) to identify any particularly noisy (and/or vibratory) activities as they occur and alter the works, where possible, or identify additional mitigation requirements.
- 5.3.5 The results from the initial (and any subsequent) monitoring exercise shall then be used to identify which future sites would be at risk of exceedance of the threshold of significance (where the temporal threshold is also likely to be exceeded), and mitigation and monitoring requirements included within further stage specific NVMPs.

## 5.4 Noise and Vibration Monitoring – Onshore Piling

- 5.4.1 If impact piling is required, attended noise and vibration monitoring shall be undertaken during the first day of piling, over a range of piling intensities. This monitoring will be reported and used to determine any risks of exceeding thresholds of significance for noise or vibration and additional mitigation applied if required.
- 5.4.2 Bored, or hydraulic piling is not predicted to be significant at any receptor, so if either of these piling techniques is employed, monitoring would only be instigated on receipt of complaints.

## 5.5 Monitoring in Response to Complaints

- 5.5.1 Complaints will be handled in accordance with the complaint management procedures within the **Outline Construction Communications Plan** (Document Reference: 8.86, submitted at Deadline 5). Reactive noise and/or vibration monitoring will be instigated in line with the procedures to be prepared and in accordance with any monitoring requirements within the relevant stage specific NVMP.

## 6. Communication, management and complaints

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### 6.1 Communication Management

#### Public notifications

- 6.1.1 The timing of works will be confirmed including those that require continuous or extended working hours.
- 6.1.2 In the case of works required in response to an emergency, the relevant local authority, local residents and any other potentially affected stakeholders will be advised as soon as reasonably practicable that emergency works are taking place. Potentially affected residents will also be notified of the helpline number for the Project.
- 6.1.3 The **Outline Construction Communications Plan** (Document Reference: 8.86, submitted at Deadline 5) sets out the overview of community engagement and provision of public information to local residents and occupiers about the works, and for the handling of complaints. The CCP will be finalised prior to the commencement of construction, for approval of the relevant planning authorities.

### 6.2 Outline Complaint Procedure

- 6.2.1 Where a person from a community local to the works makes a complaint with respect to construction noise and/or vibration, it will be overseen by a dedicated Rampion 2 Stakeholder & Communications Manager and addressed by the Contractor(s) community relations team. The community relations team will liaise with relevant members of the Project team to investigate the complaint and communicate the outcome to the complainant.
- 6.2.2 Where complaint is substantiated, the complaint will be escalated to a suitably qualified acoustician for investigation. Noise and/or vibration monitoring may be carried out and where levels are at or above the threshold of significance, and likely to persist for longer than a month, appropriate and timely action will be undertaken by the Contractor(s).
- 6.2.3 Actions could include:
- site specific noise monitoring (see **Section 5**);
  - implementing additional noise management measures;
  - changing the method of working or plant being used; and
  - or providing mitigation in the form of screening.
- 6.2.4 Where large exceedances (10dB or more above the threshold of significance) are measured at sensitive receptors, it may be necessary to halt the activity causing

the complaint until mitigation can be incorporated, or provide temporary respite or rehousing to affected receptors.

6.2.5 Records of complaints, subsequent investigation and any related resolution, will be available, on request, to the relevant local authority.

6.2.6 If the complainant is unsatisfied with the final response, they will be provided with details of the escalation process.



## 7. References

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British Standard Institute, (2014a). BS 5228-1:2009 + A1:2014 Code of practice for noise and vibration control on construction and open sites. Part 1: Noise. London: BSI.

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