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# 6.4.11.3 Environmental Statement Appendix 11.3 Details of Noise Model

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# 1. Details of the Noise Model

## 1.1. Introduction

1.1.1. This appendix sets out the details of the method used to prepare the noise model. The model predicts the potential noise levels from the Proposed Development at all the Existing Sensitive Receptors (ESRs) so that the noise can be assessed against the measured noise levels.

## 1.2. Noise Model Set-up

1.2.1. The assessment of sound propagation from the Proposed Development, has been undertaken using SPv8.2 software.

1.2.2. SPv8.2 software uses geographical information to create a model of the study area on which to generate noise contours. This includes intervening objects such as buildings and topography, that affect the propagation path.

1.2.3. SPv8.2 models use the noise prediction methodology set out in ISO 9613-2:1996 'Attenuation of sound during propagation outdoors'. The contours show the noise levels emanating from the site as a function of distance and absorption and reflection.

1.2.4. The model has an assumed temperature of 10°C, 70% humidity and 1013.3 mbar air pressure. The dominant ground covering is soft therefore the ground absorption has been set to 0.6 (whereby 0 = hard and 1 = completely absorbent).

1.2.5. The noise emissions and specifications in Table 1 describe the noise sources which have been included in the noise model. The locations have been determined using site location plans provided by the Applicant.

1.2.6. In order to provide a robust assessment, it has been assumed that all equipment will operate at 100% of its capacity.

1.2.7. Table 1-1 displays the noise sources which have been input into the model. The indicative equipment locations are shown in ES Figure 11.3.

**Table 1-1 Details of the Proposed Noise Sources from the Proposed Development**

| Equipment    | Quantity | Sound Power Level (dB(A)) | Height from the ground (m) | Source Type  | Duration |
|--------------|----------|---------------------------|----------------------------|--------------|----------|
| DC converter | 470      | 77                        | 1.5                        | Point Source | 24hr     |
| Battery      | 144      | 67                        | 1.5                        | Point Source | 24hr     |
| Inverter     | 37       | 76.3                      | 1.5                        | Point Source | 24hr     |
| Transformer  | 2        | 70                        | 1.5                        | Point Source | 24hr     |

- 1.2.8. If the operations of the proposed noise sources from the Proposed Development are found to differ greatly from those outlined in Table 1-1 at a later design stage, a supplementary noise assessment will be required to account for those changes.