

The Great Grid Upgrade

Sea Link

Preliminary Environmental Information Report

Volume: 2

Part 3 Kent Onshore Scheme

Appendix 3.10.A Kent Noise Survey Data

Version A

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3.10.A Kent Noise Survey Data

3.10.A.1 Introduction

3.10.A.1.1 This appendix presents results of the noise survey conducted as part of the Kent Onshore Scheme. A noise survey has been conducted at locations representative of noise sensitive receptors (NSR) for use within the operational noise assessment for the proposed Minster Converter Station and Minster Substation.

3.10.A.2 Noise Survey Methodology

Guidance

3.10.A.2.1 The noise monitoring was undertaken following the principles of BS 7445-1:2003 – Description and measurement of environmental noise – Part 1: Guide to quantities and procedures (BS 7445-1) (Ref 3.10.A.1) and BS 4142:2014+A1:2019. Methods for rating and assessing industrial and commercial sound (BS 4142) (Ref 3.10.A.2 Ref 3.10.A.2).

3.10.A.2.2 The survey methodology and locations were agreed with Thanet District Council and Dover District Council prior to conducting the surveys.

Survey Procedure

3.10.A.2.3 Continuous sound level monitoring was undertaken for a period of eight days, including weekday and weekend periods, between Wednesday 21 June 2023 and Thursday 29 June 2023.

3.10.A.2.4 The measurements were set to continuously repeating 15-minute periods. One-second L_{eq} measurements and one-third octave band sound levels were also recorded.

3.10.A.2.5 The calibration of the sound levels meter was checked at the start and end of the measurement. No significant drift was noted during the survey. The sound level meter had been laboratory calibrated within 24 months and the acoustic calibrators had been laboratory calibrated with 12 months of the survey, in line with the requirements of BS 4142 (Ref 3.10.A.2). Calibration certificates are available upon request.

3.10.A.2.6 A full suite of acoustical parameters was measured during the monitoring, but the following parameters are of particular interest and reported:

- $L_{Aeq,15min}$ (the equivalent continuous A-weighted sound pressure level);
- $L_{AFmax,15min}$ (the maximum sound during the measurement period); and
- $L_{A90,15min}$ (the sound level that was exceeded for 90% of the measurement period; i.e. a typical lower value).

3.10.A.2.7 The sound level meter was housed within weatherproof peli-cases with the microphone mounted via a tripod at height of between 1.2 m and 1.5 m.

3.10.A.2.8 Weather conditions were monitored during the surveys and periods of rain and/or high wind (>5 m/s) were excluded from the assessment.

Survey Locations

3.10.A.2.9 The noise survey was conducted at one location (marked as K_L1), representative of nearby NSR within the operational noise study area for the Kent Onshore Scheme. The survey location, together with the assessment locations, representative of NSR locations, is shown in Image 3.10.A.1.

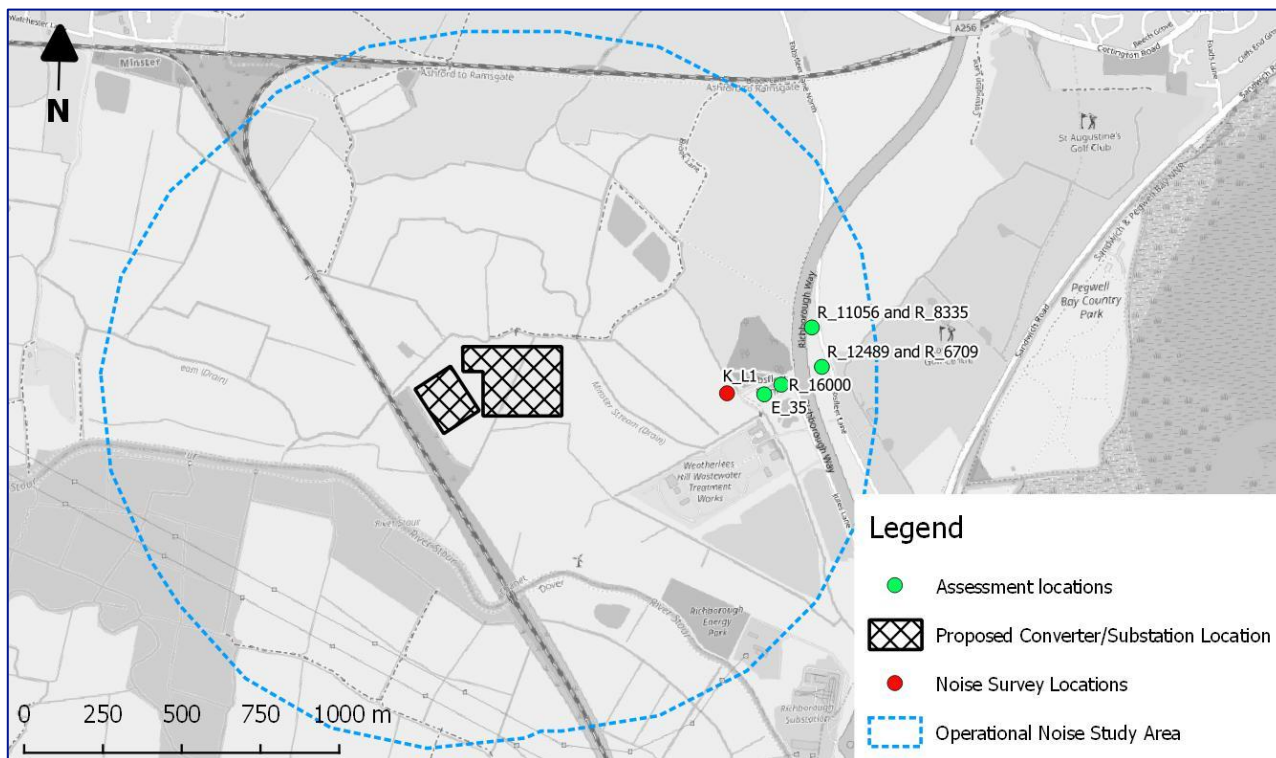


Image 3.10.A.1 Kent onshore scheme sound level survey location

3.10.A.3 Noise Survey Results

Location K_L1

K_L1 location details

3.10.A.3.1 A photograph of the survey location is provided in Image 3.10.A.2.



Image 3.10.A.2 Survey location (K_L1)

3.10.A.3.2 The survey location is as follows:

- Easting/northing: 633049/163029.
- what3words: composts.building.postage.
- Measurement Condition: Free-field.

Measurement equipment

- Sound Level Meter: 01dB Fusion. Serial number: 11195.
- Microphone: GRAS 40CE. Serial number: 233226.
- Acoustic Calibrator: 01dB CAL21. Serial number: 34565045.

Details of the noise climate

3.10.A.3.3 The noise climate at monitoring location K_L1 is typical of predominantly rural area. The main sources of ambient sound are distance road traffic sources, predominantly the A256 to the east.

Survey results

3.10.A.3.4 The temporal variation in sound level during the survey period is shown in Image 3.10.A.3.

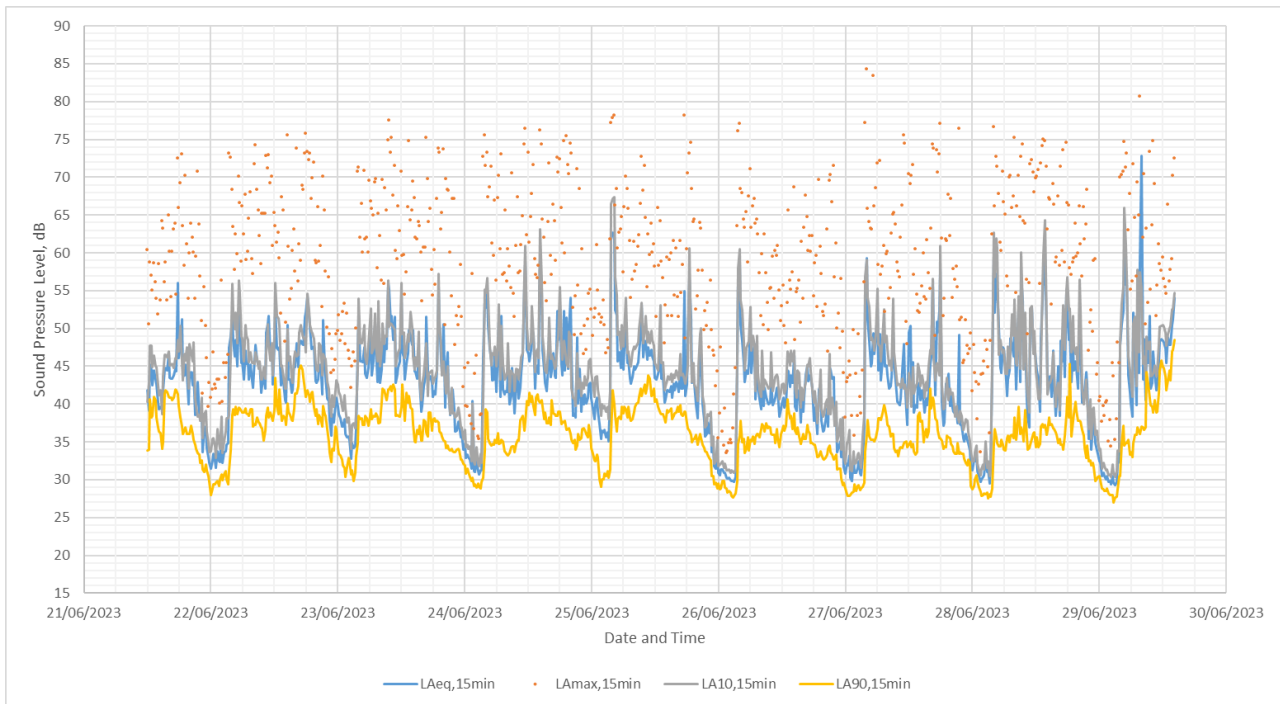


Image 3.10.A.3 Temporal variation in sound levels – K_L1

3.10.A.3.5 The distribution of background sound level levels during daytime periods is shown in Image 3.10.A.4.

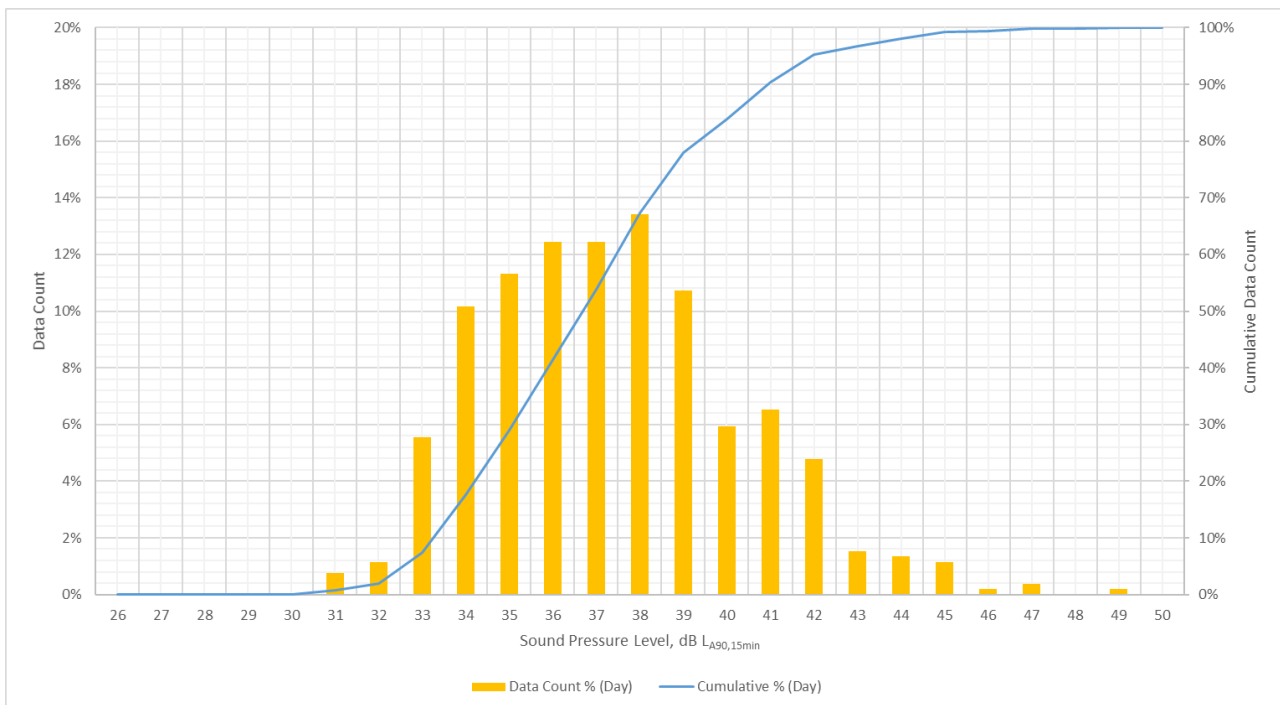


Image 3.10.A.4 Distribution of background sound levels (Daytime) – K_L1

3.10.A.3.6 The distribution of background sound level levels during night-time periods is shown in Image 3.10.A.5.

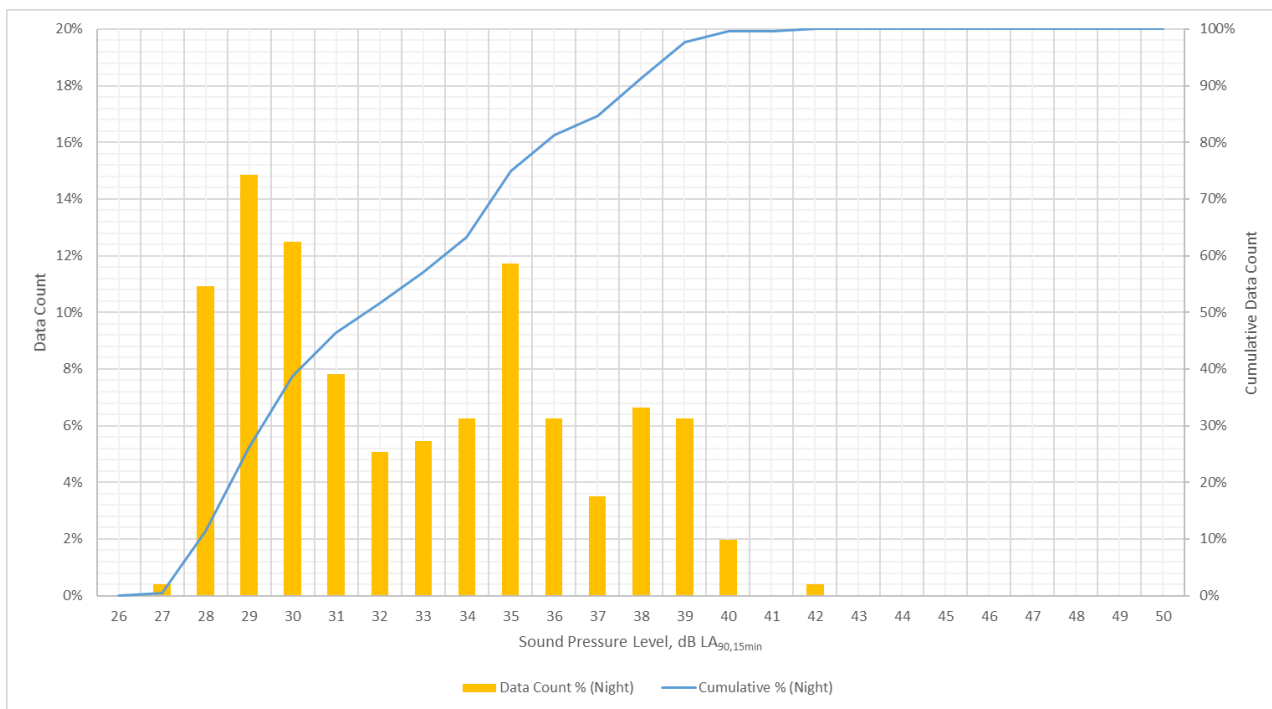


Image 3.10.A.5 Distribution of background sound levels (Night-time) – K_L1

3.10.A.3.7 A summary of measured sound levels is provided in Table 3.10.A.1.

Table 3.10.A.1 Summary of Measured Sound Levels – K_L1

| Time period | Average sound level, dB LA _{eq,15min} | Maximum sound level, dB LA _{Fmax,15min} | Background sound level, dB LA _{90,15min} |
|-------------|--|--|---|
| Day | Range: 34 – 73 Average: 50 | Range: 41 – 97 Typical: 60 | Range: 31 – 49 Average: 37 Mode: 38 |
| Night | Range: 29 – 63 Average: 48 | Range: 34 – 84 Typical: 47 | Range: 27 – 42 Average: 32 Mode: 29 |

Representative background sound levels

3.10.A.3.8 Based on the results of the survey, considering the average, modal and temporal variation in background sound level, the following representative background sound levels are applied at location K_L1:

- Daytime: 35 dB LA₉₀.
- Night-time: 29 dB LA₉₀.

3.10.A.4 Summary

3.10.A.4.1 This appendix presents results of the noise survey conducted as part of the Kent Onshore Scheme. A noise survey has been conducted at a location representative of NSR for use within the operational noise assessment for the proposed Minster Converter Station and Substation. The survey has been conducted in accordance with current guidance and good practice.

3.10.A.4.2 Table 3.10.A.2 presents a summary of representative background sound levels during daytime and night-time periods at the survey location for use in the operational noise assessment.

Table 3.10.A.2 Summary of representative background sound levels

| Monitoring location | Representative background sound level, dB LA90,15min | |
|---------------------|--|------------|
| | Daytime | Night-time |
| K_L1 | 35 | 29 |

3.10.A.5 References

Ref 3.10.A.1 British Standard 7445-1:2003 – Description and measurement of environmental noise – Part 1: Guide to quantities and procedures, British Standard Institution, 2003.

Ref 3.10.A.2 BS 4142:2014+A1:2019. Methods for rating and assessing industrial and commercial sound, British Standard Institution, 2019.

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