REPORT TITLE:

Kilmarnock South – Baseline Noise Survey & Noise Impact Assessment Report

CLIENT DETAILS:

Noriker Power Ltd

DATE:

1st December 2022

REPORT REFERENCE:

PC-22-0149-RP1-RevB

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Document Status and Revision Schedule

Issue/Revision	Description/Comments	Date	Prepared by	Approved by
First Issue	Checked & Authorised	30/06/22	PY	JCB
RevA	Revised to include full noise impact assessment	17/11/22	PY	JCB
Rev B	Additional plant units noise levels information	01/12/22	JCB	MJ

1. Introduction

1.1.1. Pace Consult Limited was appointed and instructed by Noriker Power Ltd to complete a baseline noise survey for the proposed Kilmarnock South Battery Energy Storage System development.

1.1.2. The development consists of the construction of a new battery energy storage system on land close to the existing Kilmarnock South electrical sub-station.

1.1.3. The proposed development site is located across three adjacent plots of farmland which have the following co-ordinates:

- Plot 1 – 55.561889º Latitude, -4.458269º Longitude
- Plot 2 – 55.559420º Latitude, -4.457186º Longitude
- Plot 3 – 55.559781º Latitude, -4.454377º Longitude
- Plot 4 – 55.560881º Latitude, -4.455813º Longitude

1.1.4. It is understood that the baseline noise survey is required to support the planning application and to inform the co-ordinated design of the project.

1.1.5. This technical report details the baseline noise survey & noise impact assessment. The baseline survey has been completed following the guidance of BS4142:2014 + A1:2019 *Methods for rating and assessing industrial and commercial units* & BS 7445: *Description & Measurement of Environmental Noise (Parts 1-3)*.

1.1.6. Assessment of the potential noise impacts arising from the site have been completed following the guidance of BS BS4142:2014 + A1:2019 *Methods for rating and assessing industrial and commercial units*.

2. The Site

2.1. Existing Area

2.1.1. The proposed development site is located across three adjacent plots of farmland which have the following co-ordinates:

- Plot 1 – 55.561889º Latitude, -4.458269º Longitude
- Plot 2 – 55.559420º Latitude, -4.457186º Longitude
- Plot 3 – 55.559781º Latitude, -4.454377º Longitude
- Plot 4 – 55.560881º Latitude, -4.455813º Longitude

2.1.2. The area is a rural location, situated away from major roads and as such prevailing noise levels at the site are low.

2.1.3. The closest noise sensitive receptors to the proposed development are residential dwellings on nearby farms. These are indicated in figures 1 & 2 overleaf.

2.1.4. Figures 1 & 2 overleaf shows the location of the proposed development site relative the closest noise sensitive receptors. The distance to each receptor from the site boundary is also shown.

2.2. Proposed Development

2.2.1. The proposed development is for the construction of a new battery energy storage system on land close to the existing Kilmarnock South electrical sub-station.

2.2.2. The development is proposed to be located across plots 1, 2 & 3 (see above). Plot 4 is an existing wildlife habitat that is proposed to be enhanced as part of the development.

2.2.3. Figure 2 overleaf shows the proposed layout of the new development.

Figure 1: Existing site layout showing land plots

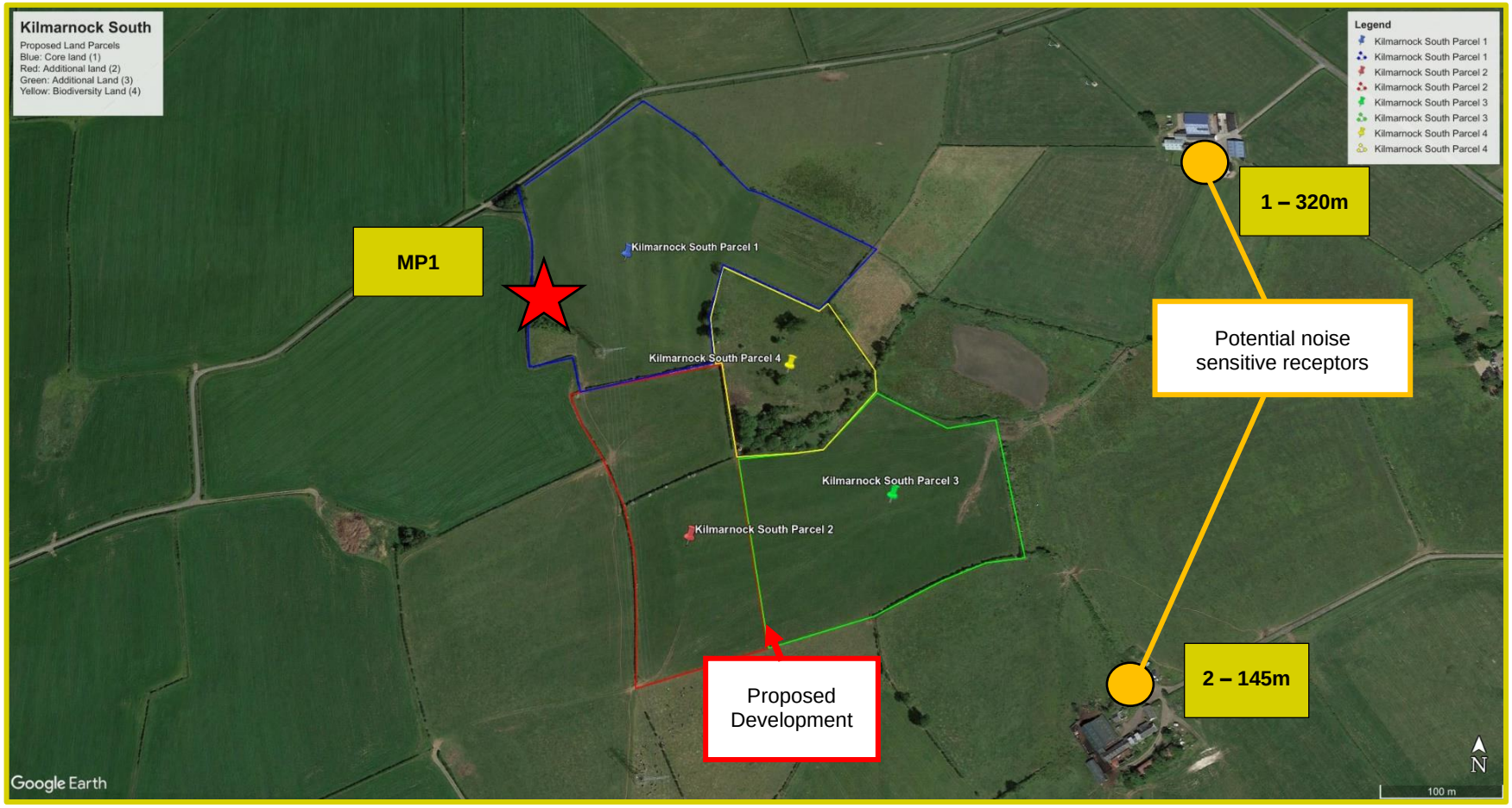
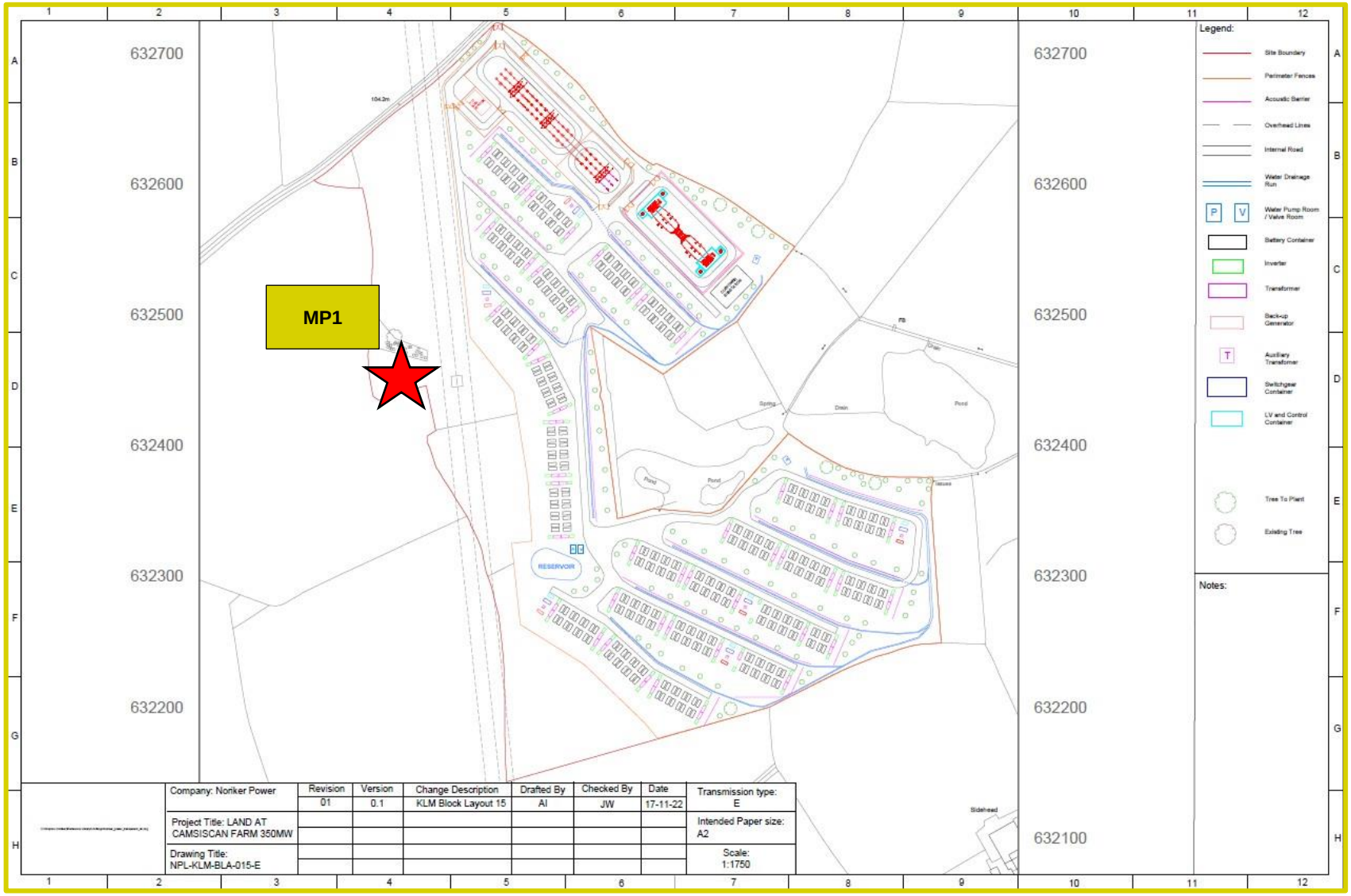


Figure 2: Existing site aerial

Figure 3: Proposed site layout



3. Assessment Criteria

3.1. BS4142:2014 + A1:2019

3.1.1 This standard sets out a methodology for the assessment of whether noise from factories, industrial premises or fixed installations and sources of an industrial/commercial nature.

3.1.2 The procedure contained in BS4142 for assessing the impact is to compare the measured or predicted noise level from the source in question, the 'specific noise level', at the assessment position with the correct background noise level for the worst-case time of operation.

3.1.3 Where the noise contains a 'distinguishable, discreet, continuous note (whine, hiss, screech, hum etc.) or if there are distinct impulses in the noise (bangs, clicks or clatters), or if the noise is irregular enough to attract attention' then a range of correction factors can be added to the specific noise level as appropriate to obtain the 'rating level'. As this is a prescriptive report prior to plant installation, overall rating noise levels will be specified for the new installation. Compliance with the rating value will be necessary to provide evidence that significant adverse impact has been avoided as required by the NPSE.

3.1.4 To assess the impact, the measured background noise level is subtracted from the rating noise level. BS4142 states:

The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessment and arriving at decisions, therefore, it is essential to place the sound in context.
Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level from the rating level and consider the following.

a) Typically the greater the difference, the greater the magnitude of the impact.
b) A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.
c) A difference of around 5dB is likely to be an indication of an adverse impact, depending on the context.
d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following.

1) The absolute level of sound. For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low.

Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.

Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse.

2) The character and level of the residual sound compared to the character and level of the specific sound. Consider whether it would be beneficial to compare the frequency spectrum and temporal variation of the specific sound with that of the ambient or residual sound, to assess the degree to which the specific sound source is likely to be distinguishable and will represent an incongruous sound by comparison to the acoustic environment that would occur in the absence of the specific sound. Any sound parameters, sampling periods and averaging time periods used to undertake character comparisons should reflect the way in which sound of an industrial and/or commercial nature is likely to be perceived and how people react to it.

3) The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as;
- *i) Façade sound insulation treatment*
- *ii) Ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and Acoustic screening.*

4. Baseline Noise Survey

4.1. Method

4.1.1. The baseline noise survey was completed between Friday 17th & Monday 20th June 2022 to measure representative noise levels at the site of the proposed development, and closest noise sensitive receptors, during a typical weekday & weekend period.

4.1.2. The survey was carried out in accordance with the principles of BS 7445:2003 Parts 1-3, '*Description and Measurement of Environmental Noise'*, and British Standard BS4142: 2014 + A1:2019: *Methods for rating and assessing industrial and commercial sound*.

4.1.3. Figures 1 & 2 above show the location of the survey measurement positions. Each position is described in detail below.

4.1.4. MP1 – Long-term unattended continuous measurement position. The sound level meter was tripod mounted at a height of 2m and was located on the boundary of land plot 1.

4.2. Measurement Parameters

4.2.1. The following measurement parameters were recorded:

- $L_{A90,T}$ dB
- $L_{Aeq,T}$ dB

4.2.2. A 15-minute measurement period was used with a 1s sampling time. The measurements at all survey positions comprised of consecutive measurement periods in terms of the most relevant standards and guidelines.

4.3. Equipment

4.3.1. All noise measurements were made with calibrated precision grade 1 sound level meters, which achieve the requirements of BS EN 61672:2003.

4.3.2. The equipment used is shown in the table below.

Table 1: Baseline noise survey equipment list

Measurement Position	Item Name	Serial Number	Calibration Certificate
MP1	Svantek Svan 958	36584	1500385-1a/-1b
Calibrator	Norsonic Nor 1251	30998	U39543

4.3.3. The sound level meter was calibrated before and after the survey. No significant drift was noted between the two reference checks.

4.4. **Weather**

4.4.1. In order to evaluate the weather conditions two weather checks measurements were undertaken on site. A handheld RS ProIM-740 weather monitor was used.

Table 2: Baseline noise survey weather conditions

Date	Temperature ^{0}C	Wind Speed (m/s) & Direction
17/06/22	15^{0c}	4.5 m/s
20/06/22	17^{0c}	1.5 m/s

4.5. Results

4.5.1. The measured typical background during three consecutive days is summarised in the tables below. The full set of survey data is provided graphically in Appendix A.

Table 3: Measurement position MP1 environmental noise survey data

Date & Time	$L_{A90,T}$ dB (*Typical)
Day Time	37 (1 hour)
Night Time	37 (15 minutes)

**Note: Following the guidance of BS4142:2014 + A1:2019 Methods for rating and assessing industrial and commercial units & The Association of Noise Consultants BS4142:2014 + A1:2019 Technical Note 2020 Ver 1.0, typical background noise levels for each period have been selected based on statistical analysis of the data. The statistical analyses are included in appendix B at the rear of this report.*

5. Noise Impact from the Proposed Development

5.1. Proposed plant units noise data.

5.1.1. The proposed plant units which are proposed to be installed on site, and associated noise levels are included in the table below. Figure 3 on page 7 shows the location of the proposed plant units.

Table 4: Proposed plant noise levels.

Plant unit	Sound Power Lw dB							Sound pressure level at 1 m distance from the unit dBA
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	
Battery Container	57	62	57	62	62	58	52	57
Transformer	51	56	51	56	56	52	46	51
Aux Transformer	60	65	60	65	65	61	55	60
Grid Transformer	78	83	78	83	83	79	73	78

Plant unit	Sound Power LwA dB										
Inverter	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz
	44.26	48.27	51.48	56.43	61.54	67.1	69.65	71.16	69.86	72.37	71.94
	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	**3.15 kHz**
	74.03	75.52	73.04	69.57	71.14	70.18	67.94	70.03	70.07	73.76	**80.42**
	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz						
	61.79	64.09	73.4	61.63	60.61						

Note. The inverters, which are the noisiest units will be installed with a splitter sound attenuator, which will suppress the presence of tonalities at low frequencies, this is shown in the data above. Additionally, it is understood that the mild high frequency tonality at high frequency (3.15 kHz shown above) will be suppressed by an anti-vibration modification to the equipment by the manufacturer, however the above data does not reflect this modification.

5.1.2. The noise impact assessment considers the worst-case scenario, based on all proposed plant units operating constantly for 24 hours periods. It should be noted that it is highly unlikely that all units will be operating at the same time, and therefore the expected noise levels will be lower during typical operational conditions.

5.2 Uncertainty in the calculations.

5.2.1 The following steps were taken to reduce the level of uncertainty within the sound measurements and calculations:

- The sound level meter was immediately calibrated before and after the survey, the difference between the initial calibration value, and the final calibration check of completion of measurements did not exceed ± 0.5 dB.
- The sound emission calculation has been undertaken using industry standard sound propagation software.

5.2.2 It is considered that the uncertainty in the results is extremely low due to the following:

- Favourable weather conditions during the background measurements
- Measurement period covering multiple days as well as midweek and weekend periods to account for all likely local and distant traffic pattern variations.
- The sound emission calculation using appropriate software was verified by Pace Consult Ltd.

5.3 Calculation methodology.

5.3.1 The noise impact from the proposed units at the nearest residential dwellings have been assessed using the methodology described in ISO 9613-2. This ISO standard calculates the sound propagation for outdoor noise sources for downwind situations.

6. BS4142:2014+A1:2019 assessment.

6.1.1. This section includes the assessment method recommended by BS4142:2014+A1:2019.

6.1.2. The nosiest plant items are acoustically treated by noise attenuators and therefore the tonalites are suppressed. Additionally, the calculated noise levels and measured background are considered low, when this situation occurs, BS4142:2014 recommend the following:

> *Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.*

6.1.3. The table below includes the assessment during night time.

Table 5: Noise Impact Assessment.

Receptors	Calculated sound pressure level dBA	Typical background measured on site. $L_{A90,T}$ dB	Excess of rating over background level
R1	36	37	-1
R2	37		0
R3	32		-5
R4	28		-9

6.1.4 Absolute values measured during the three consecutive days are included below.

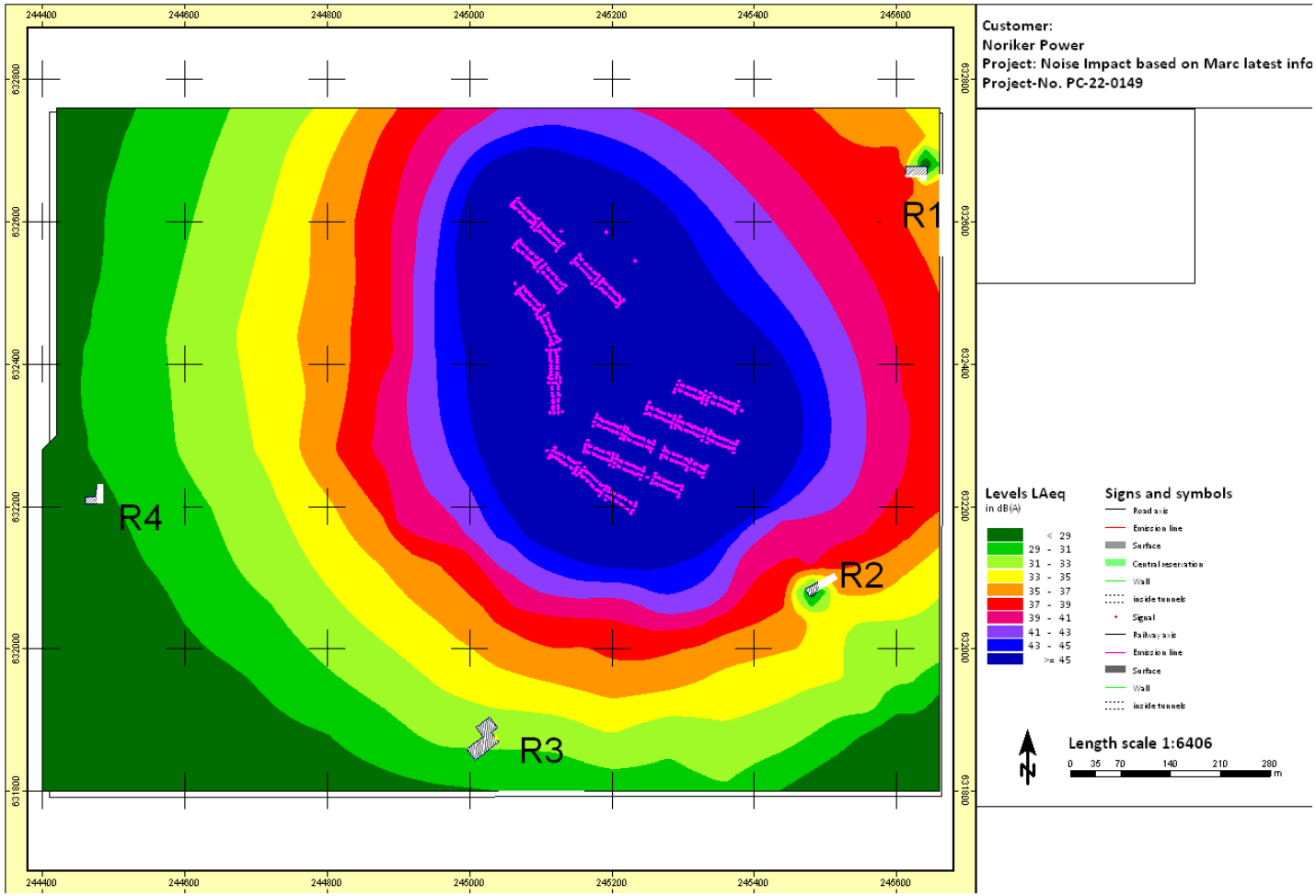
Table 6: measured LAeq 1hr during day time and LAeq,15 min during night time.

Date & Time	L_{Aeq} dB Log average during three consecutive days	Predicted worst case noise emission (R2 above
Day Time	51	37 (-14dBA)
Night Time	50	37 (-13dBA)

6.1.5 Following BS4142 methodology, the calculated noise levels are significantly below the measured absolute values during day, and night time. This is considered a positive indication that the expected noise impact from the proposed plant unit will be negligible/inaudible even at the worst case nearest residential dwelling.

6.1.6 As can be seen from the table above the rating level is equal to and below the typical measured background sound level during night-time, which is a positive indication that the specific sound levels (noise from the proposed mechanical plant units) have a low impact at the nearest residential dwellings.

Figure 4: Grid noise map calculated at 2m height



7. Conclusions

7.1.1. Pace Consult has completed a baseline noise survey at the site of the proposed Kilmarnock South Battery Energy Storage System development.

7.1.2. Representative background levels have been measured over typical weekday and weekend periods

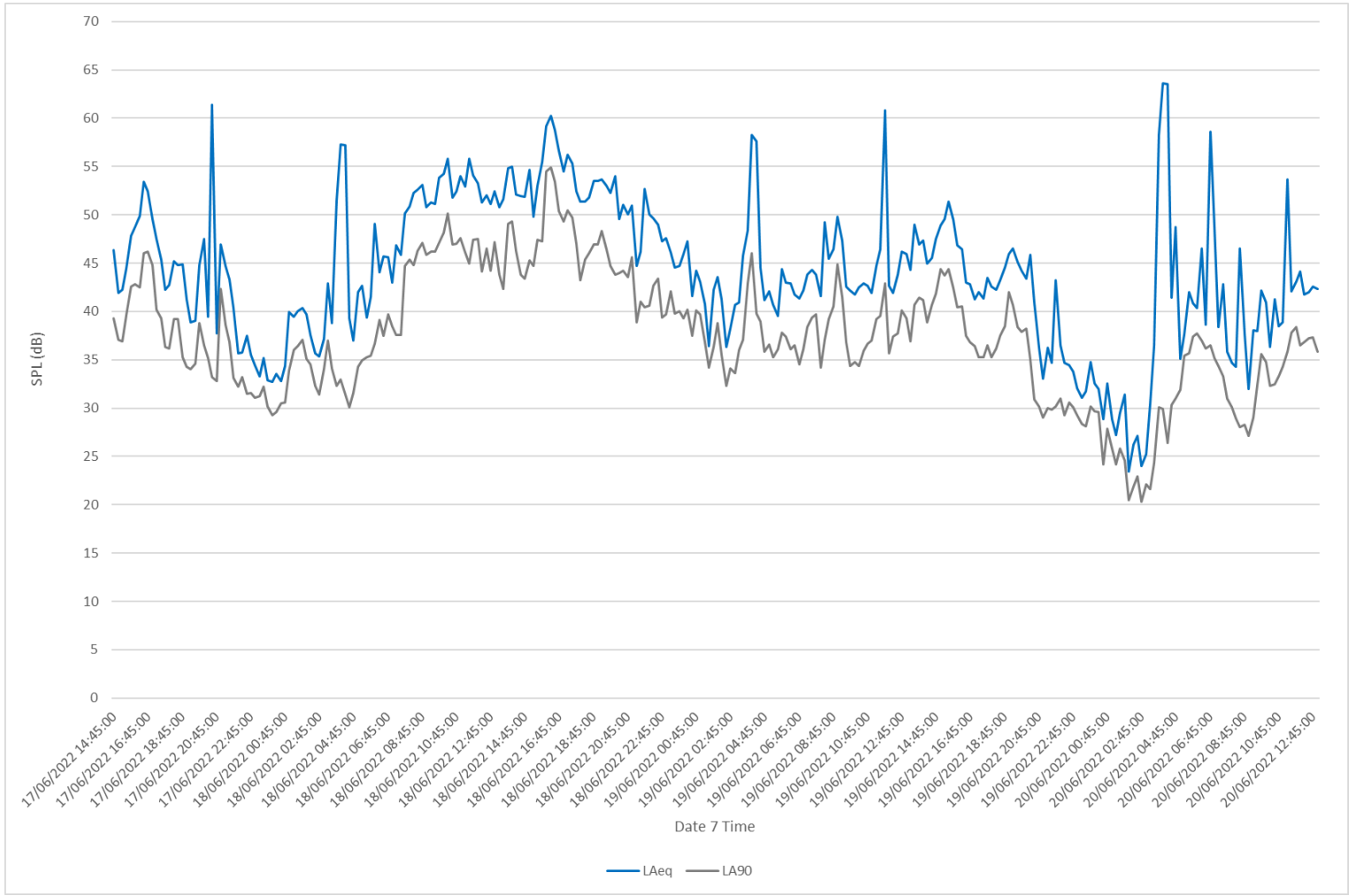
7.1.3. Noise rating limits have been established for daytime & night-time periods, following the guidance of BS4142:2014 + A1:2019 Method for *Rating Industrial Noise Affecting Mixed Residential and Industrial Areas*.

7.1.4. Calculations of noise emissions from proposed fixed items of plant have been completed. The noise impact assessment based on the methodology recommended by BS4142:2014+A1:2019 shows that the calculated noise rating are equal to and below the typical measured background sound level during night-time, which is a positive indication that the specific sound levels (noise from the proposed mechanical plant units) have a low impact at the nearest residential dwellings.

7.1.5. The calculated noise emission from the proposed plant units are also compared against the measured absolute values, and it can be concluded that the expected noise emission level will be substantially below the local ambient average noise levels recorded over multiple day and night periods. Therefore noise impact is expected to be undetectable/negligible at the nearest residential dwellings.

8. Appendix A - Baseline Noise Survey Data

Figure 5: MP1 Baseline Noise Survey Data



9. Appendix B – L_{A90} Statistical Analyses

Figure 6: Day Time 1

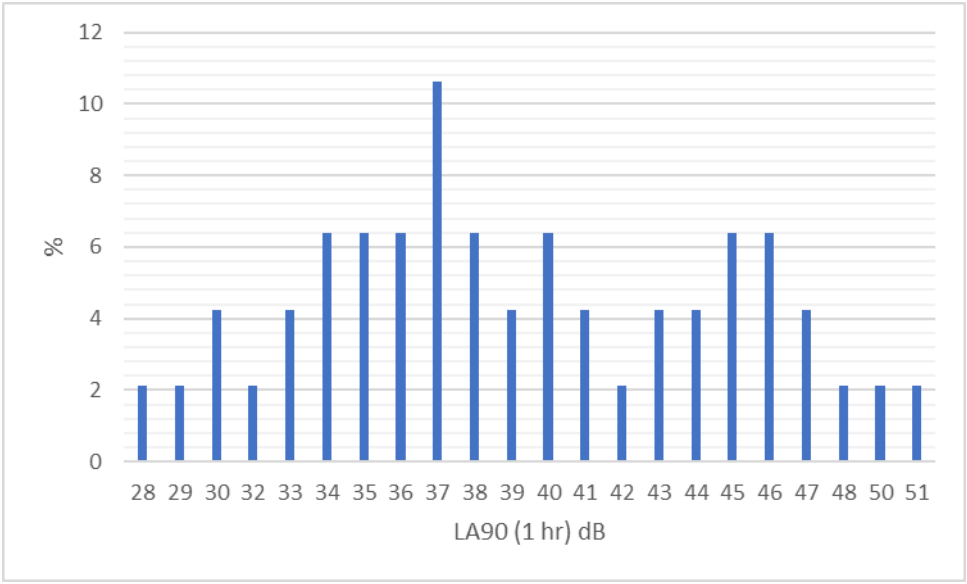
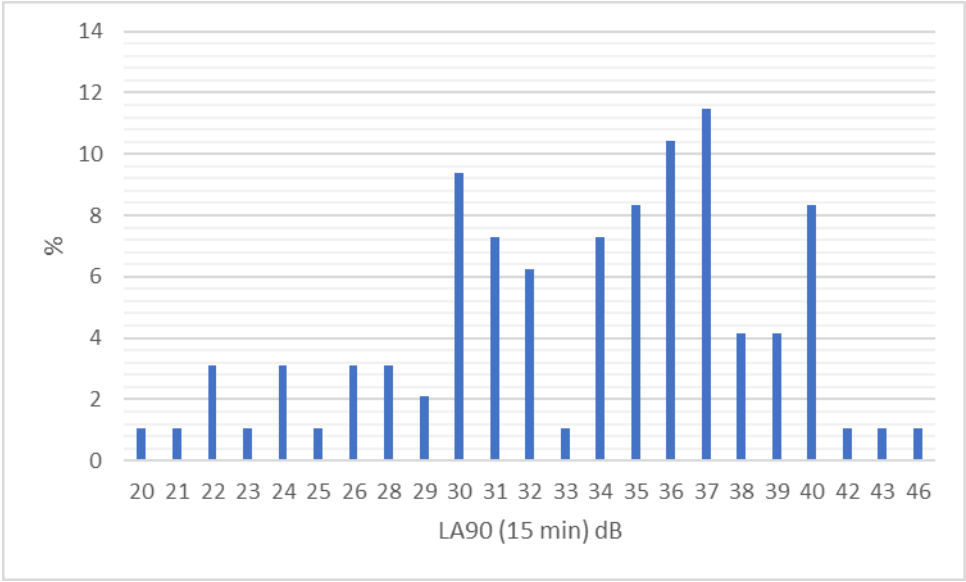


Figure 7: Night Time



10. Appendix C – Noise propagation calculation

The table below includes a full noise propagation calculation at R2 (highest calculated noise level)

Table 6: Noise Impact Assessment.

Source	Source type	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	dLrefl dB(A)	Lr dB(A)
Auxiliary Transformer	Point	68.4	610.91	-66.7	0	0	-3.3	0	-1.6
Auxiliary Transformer	Point	68.4	600.36	-66.6	0	0	-3.3	0	-1.4
Auxiliary Transformer	Point	68.4	429.88	-63.7	0	-4.1	-2.2	0	-1.6
Auxiliary Transformer	Point	68.4	260.9	-59.3	-0.1	-3.9	-1.5	0	3.6
Auxiliary Transformer	Point	68.4	287.32	-60.2	-0.1	-4.1	-1.6	0	2.5
Battery	Point	65.4	359.9	-62.1	-0.1	-3.6	-1.9	0	-2.2
Battery	Point	65.4	356.49	-62	-0.1	-3.6	-1.9	0	-2.1
Battery	Point	65.4	384.47	-62.7	0	-4.1	-2	0	-3.4
Battery	Point	65.4	373.89	-62.4	0	-3.7	-1.9	0	-2.8
Battery	Point	65.4	369.16	-62.3	0	-3.7	-1.9	0	-2.6
Battery	Point	65.4	365.22	-62.2	0	-3.7	-1.9	0	-2.4
Battery	Point	65.4	367.09	-62.3	0	-4	-1.9	0	-2.8
Battery	Point	65.4	363.12	-62.2	0	-3.9	-1.9	0	-2.7
Battery	Point	65.4	357.77	-62.1	-0.1	-3.9	-1.9	0	-2.5
Battery	Point	65.4	381.02	-62.6	0	-4.1	-2	0	-3.3
Battery	Point	65.4	375.39	-62.5	0	-4	-2	0	-3
Battery	Point	65.4	371.82	-62.4	0	-4	-1.9	0	-2.9
Battery	Point	65.4	328.8	-61.3	-0.1	-4.1	-1.8	0	-1.8
Battery	Point	65.4	325.26	-61.2	-0.1	-4	-1.7	0	-1.6
Battery	Point	65.4	320.53	-61.1	-0.1	-4	-1.7	0	-1.5
Battery	Point	65.4	310.24	-60.8	-0.1	-3.9	-1.7	0	-1
Battery	Point	65.4	337.84	-61.6	-0.1	-3.9	-1.8	0	-1.9
Battery	Point	65.4	334.4	-61.5	-0.1	-3.9	-1.8	0	-1.8
Battery	Point	65.4	386.47	-62.7	0	-4	-2	0	-3.3
Battery	Point	65.4	383.03	-62.7	0	-4.1	-2	0	-3.3
Battery	Point	65.4	377.43	-62.5	0	-4	-2	0	-3.2
Battery	Point	65.4	316.59	-61	-0.1	-4	-1.7	0	-1.3
Battery	Point	65.4	311.27	-60.9	-0.1	-4.1	-1.7	0	-1.3
Battery	Point	65.4	307.87	-60.8	-0.1	-4	-1.7	0	-1.1
Battery	Point	65.4	255.43	-59.1	-0.1	-4.1	-1.4	0	0.7
Battery	Point	65.4	252.06	-59	-0.1	-4.1	-1.4	0	0.8
Battery	Point	65.4	273.97	-59.7	-0.1	-4.1	-1.5	0	-0.1
Battery	Point	65.4	269.29	-59.6	-0.1	-4	-1.5	0	0.2
Battery	Point	65.4	264.59	-59.4	-0.1	-4	-1.5	0	0.4
Battery	Point	65.4	260.7	-59.3	-0.1	-4.1	-1.4	0	0.5
Battery	Point	65.4	256.44	-59.2	-0.1	-4.1	-1.4	0	0.6
Battery	Point	65.4	252.41	-59	-0.1	-4.1	-1.4	0	0.7
Battery	Point	65.4	247.02	-58.8	-0.1	-4.2	-1.4	0	0.9
Battery	Point	65.4	270.5	-59.6	-0.1	-4.1	-1.5	0	0
Battery	Point	65.4	264.81	-59.5	-0.1	-4.1	-1.5	0	0.2
Battery	Point	65.4	261.2	-59.3	-0.1	-4.1	-1.5	0	0.4
Battery	Point	65.4	275.35	-59.8	-0.1	-4	-1.5	0	0
Battery	Point	65.4	271.88	-59.7	-0.1	-4	-1.5	0	0.2
Battery	Point	65.4	267.2	-59.5	-0.1	-4	-1.5	0	0.3
Battery	Point	65.4	354.34	-62	-0.1	-3.9	-1.9	0	-2.4
Battery	Point	65.4	284.26	-60.1	-0.1	-4	-1.6	0	-0.3
Battery	Point	65.4	280.84	-60	-0.1	-4	-1.5	0	-0.2
Battery	Point	65.4	281.78	-60	-0.1	-4.1	-1.5	0	-0.3

Battery	Point	65.4	278.34	-59.9	-0.1	-4.1	-1.5	0	-0.1
Battery	Point	65.4	272.8	-59.7	-0.1	-4.1	-1.5	0	0.1
Battery	Point	65.4	263.36	-59.4	-0.1	-4	-1.4	0	0.5
Battery	Point	65.4	258.13	-59.2	-0.1	-4	-1.4	0	0.6
Battery	Point	65.4	254.81	-59.1	-0.1	-4	-1.4	0	0.8
Battery	Point	65.4	273.06	-59.7	-0.1	-3.3	-1.5	0	0.8
Battery	Point	65.4	269.98	-59.6	-0.1	-3.6	-1.5	0	0.6
Battery	Point	65.4	293.9	-60.4	-0.1	-4	-1.6	0	-0.6
Battery	Point	65.4	285.99	-60.1	-0.1	-3.2	-1.5	0	0.5
Battery	Point	65.4	281.53	-60	-0.1	-3.7	-1.5	0	0.1
Battery	Point	65.4	277.98	-59.9	-0.1	-3.6	-1.5	0	0.4
Battery	Point	65.4	277.58	-59.9	-0.1	-3.7	-1.5	0	0.2
Battery	Point	65.4	273.98	-59.7	-0.1	-3.9	-1.5	0	0.2
Battery	Point	65.4	268.99	-59.6	-0.1	-3.5	-1.5	0	0.8
Battery	Point	65.4	290.58	-60.3	-0.1	-3.9	-1.6	0	-0.4
Battery	Point	65.4	285.37	-60.1	-0.1	-3.8	-1.5	0	-0.1
Battery	Point	65.4	282.09	-60	-0.1	-3.8	-1.5	0	0
Battery	Point	65.4	330.06	-61.4	-0.1	-3.9	-1.8	0	-1.7
Battery	Point	65.4	326.69	-61.3	-0.1	-3.9	-1.7	0	-1.5
Battery	Point	65.4	322.11	-61.2	-0.1	-3.8	-1.7	0	-1.3
Battery	Point	65.4	313.71	-60.9	-0.1	-3.8	-1.7	0	-1.1
Battery	Point	65.4	338.75	-61.6	-0.1	-4	-1.8	0	-2
Battery	Point	65.4	335.39	-61.5	-0.1	-3.9	-1.8	0	-1.9
Battery	Point	65.4	297.65	-60.5	-0.1	-4.1	-1.6	0	-0.8
Battery	Point	65.4	294.36	-60.4	-0.1	-4.1	-1.6	0	-0.7
Battery	Point	65.4	289.23	-60.2	-0.1	-3.4	-1.5	0	0.1
Battery	Point	65.4	318.4	-61.1	-0.1	-4	-1.7	0	-1.4
Battery	Point	65.4	313.3	-60.9	-0.1	-3.9	-1.7	0	-1.2
Battery	Point	65.4	310.08	-60.8	-0.1	-3.9	-1.7	0	-1
Battery	Point	65.4	226.19	-58.1	-0.1	-3.8	-1.3	0	2.1
Battery	Point	65.4	223.23	-58	-0.1	-3.8	-1.2	0	2.3
Battery	Point	65.4	340.02	-61.6	-0.1	-3.6	-1.8	0	-1.6
Battery	Point	65.4	238.73	-58.6	-0.1	-3.9	-1.3	0	1.5
Battery	Point	65.4	234.37	-58.4	-0.1	-3.8	-1.3	0	1.8
Battery	Point	65.4	230.96	-58.3	-0.1	-4	-1.3	0	1.7
Battery	Point	65.4	322.81	-61.2	-0.1	-3.8	-1.7	0	-1.3
Battery	Point	65.4	318.91	-61.1	-0.1	-3.8	-1.7	0	-1.2
Battery	Point	65.4	313.62	-60.9	-0.1	-3.9	-1.7	0	-1.2
Battery	Point	65.4	336.59	-61.5	-0.1	-3.5	-1.8	0	-1.5
Battery	Point	65.4	331.03	-61.4	-0.1	-3.5	-1.7	0	-1.3
Battery	Point	65.4	327.52	-61.3	-0.1	-3.7	-1.7	0	-1.3
Battery	Point	65.4	246.36	-58.8	-0.1	-3.6	-1.3	0	1.5
Battery	Point	65.4	243.29	-58.7	-0.1	-3.8	-1.3	0	1.4
Battery	Point	65.4	238.99	-58.6	-0.1	-3.7	-1.3	0	1.8
Battery	Point	65.4	265.86	-59.5	-0.1	-3.8	-1.4	0	0.6
Battery	Point	65.4	254.44	-59.1	-0.1	-2.2	-1.4	0	2.6
Battery	Point	65.4	251.25	-59	-0.1	-3.6	-1.4	0	1.3
Battery	Point	65.4	250.08	-59	-0.1	-3.6	-1.4	0	1.4
Battery	Point	65.4	246.85	-58.8	-0.1	-3.7	-1.4	0	1.4
Battery	Point	65.4	241.86	-58.7	-0.1	-3.5	-1.3	0	1.8
Battery	Point	65.4	235.66	-58.4	-0.1	-3.6	-1.3	0	1.9
Battery	Point	65.4	230.98	-58.3	-0.1	-3.7	-1.3	0	2
Battery	Point	65.4	228.08	-58.2	-0.1	-4	-1.3	0	1.9
Battery	Point	65.4	243.55	-58.7	-0.1	-4.2	-1.4	0	1.1
Battery	Point	65.4	339.14	-61.6	-0.1	-4.1	-1.8	0	-2.2
Battery	Point	65.4	370.87	-62.4	0	-3.8	-2.1	0	-2.9
Battery	Point	65.4	367.59	-62.3	0	-3.9	-2	0	-2.8
Battery	Point	65.4	351	-61.9	-0.1	-4.1	-1.9	0	-2.5
Battery	Point	65.4	347.4	-61.8	-0.1	-4.1	-1.9	0	-2.4
Battery	Point	65.4	342.5	-61.7	-0.1	-4.1	-1.9	0	-2.3
Battery	Point	65.4	350.63	-61.9	-0.1	-3.9	-1.9	0	-2.4

Battery	Point	65.4	345.36	-61.8	-0.1	-3.8	-1.9	0	-2.2
Battery	Point	65.4	342.33	-61.7	-0.1	-3.9	-1.9	0	-2.1
Battery	Point	65.4	362.55	-62.2	-0.1	-3.9	-2	0	-2.7
Battery	Point	65.4	359.13	-62.1	-0.1	-3.9	-2	0	-2.6
Battery	Point	65.4	353.94	-62	-0.1	-3.9	-2	0	-2.4
Battery	Point	65.4	405.49	-63.2	0	-4	-2.2	0	-3.9
Battery	Point	65.4	399.82	-63	0	-4	-2.1	0	-3.8
Battery	Point	65.4	396.48	-63	0	-4	-2.1	0	-3.7
Battery	Point	65.4	417.63	-63.4	0	-4	-2.2	0	-4.3
Battery	Point	65.4	414.35	-63.3	0	-4	-2.2	0	-4.2
Battery	Point	65.4	408.74	-63.2	0	-4	-2.2	0	-4
Battery	Point	65.4	364.35	-62.2	-0.1	-4.1	-2	0	-2.9
Battery	Point	65.4	359.43	-62.1	-0.1	-4.1	-1.9	0	-2.8
Battery	Point	65.4	355.98	-62	-0.1	-4.1	-1.9	0	-2.7
Battery	Point	65.4	390.88	-62.8	0	-3.9	-2.1	0	-3.5
Battery	Point	65.4	387.87	-62.8	0	-3.9	-2.1	0	-3.4
Battery	Point	65.4	367.88	-62.3	0	-4.1	-2	0	-3
Battery	Point	65.4	293.99	-60.4	-0.1	-4	-1.7	0	-0.7
Battery	Point	65.4	243.51	-58.7	-0.1	-4.1	-1.4	0	1.2
Battery	Point	65.4	239.71	-58.6	-0.1	-4.1	-1.3	0	1.2
Battery	Point	65.4	305.76	-60.7	-0.1	-4	-1.7	0	-1
Battery	Point	65.4	302.48	-60.6	-0.1	-4	-1.7	0	-0.9
Battery	Point	65.4	296.94	-60.4	-0.1	-4	-1.7	0	-0.8
Battery	Point	65.4	231.6	-58.3	-0.1	-4.1	-1.3	0	1.6
Battery	Point	65.4	228.26	-58.2	-0.1	-4.1	-1.3	0	1.7
Battery	Point	65.4	241.2	-58.6	-0.1	-4.1	-1.3	0	1.2
Battery	Point	65.4	234.52	-58.4	-0.1	-4.1	-1.3	0	1.5
Battery	Point	65.4	231.23	-58.3	-0.1	-4.1	-1.3	0	1.6
Battery	Point	65.4	236.85	-58.5	-0.1	-4.1	-1.3	0	1.4
Battery	Point	65.4	309.25	-60.8	-0.1	-4.1	-1.7	0	-1.2
Battery	Point	65.4	304.14	-60.7	-0.1	-4.1	-1.7	0	-1.1
Battery	Point	65.4	300.68	-60.6	-0.1	-4.1	-1.7	0	-1
Battery	Point	65.4	321.8	-61.1	-0.1	-4	-1.8	0	-1.6
Battery	Point	65.4	318.36	-61.1	-0.1	-4	-1.8	0	-1.5
Battery	Point	65.4	312.56	-60.9	-0.1	-4	-1.7	0	-1.3
Battery	Point	65.4	320.11	-61.1	-0.1	-3.9	-1.8	0	-1.5
Battery	Point	65.4	314.56	-60.9	-0.1	-4	-1.8	0	-1.3
Battery	Point	65.4	311.37	-60.9	-0.1	-4	-1.7	0	-1.2
Battery	Point	65.4	294.98	-60.4	-0.1	-4.1	-1.6	0	-0.8
Battery	Point	65.4	292.01	-60.3	-0.1	-4.1	-1.6	0	-0.7
Battery	Point	65.4	323.39	-61.2	-0.1	-3.9	-1.8	0	-1.6
Battery	Point	65.4	301.78	-60.6	-0.1	-4.1	-1.6	0	-1
Battery	Point	65.4	331.14	-61.4	-0.1	-4.1	-1.8	0	-1.9
Battery	Point	65.4	327.68	-61.3	-0.1	-4.1	-1.8	0	-1.8
Battery	Point	65.4	314.73	-61	-0.1	-4.1	-1.7	0	-1.4
Battery	Point	65.4	310.67	-60.8	-0.1	-4.1	-1.7	0	-1.3
Battery	Point	65.4	305.27	-60.7	-0.1	-4.1	-1.7	0	-1.1
Battery	Point	65.4	309.46	-60.8	-0.1	-4.1	-1.7	0	-1.3
Battery	Point	65.4	304.04	-60.7	-0.1	-4.1	-1.7	0	-1.1
Battery	Point	65.4	300.53	-60.5	-0.1	-4.1	-1.6	0	-0.9
Battery	Point	65.4	321.94	-61.1	-0.1	-4.1	-1.7	0	-1.6
Battery	Point	65.4	318.3	-61	-0.1	-4.1	-1.7	0	-1.5
Battery	Point	65.4	313.53	-60.9	-0.1	-4.1	-1.7	0	-1.3
Battery	Point	65.4	259.85	-59.3	-0.1	-4.1	-1.4	0	0.4
Battery	Point	65.4	255.09	-59.1	-0.1	-4.1	-1.4	0	0.6
Battery	Point	65.4	251.02	-59	-0.1	-4.1	-1.4	0	0.8
Battery	Point	65.4	272.68	-59.7	-0.1	-4.1	-1.5	0	0
Battery	Point	65.4	269.21	-59.6	-0.1	-4.1	-1.5	0	0.1
Battery	Point	65.4	263.48	-59.4	-0.1	-4.1	-1.5	0	0.3
Battery	Point	65.4	328.83	-61.3	-0.1	-4.1	-1.8	0	-1.8
Battery	Point	65.4	323.11	-61.2	-0.1	-4.1	-1.7	0	-1.6

Battery	Point	65.4	319.49	-61.1	-0.1	-4.1	-1.7	0	-1.6
Battery	Point	65.4	245.61	-58.8	-0.1	-4.1	-1.4	0	1
Battery	Point	65.4	242.11	-58.7	-0.1	-4.1	-1.4	0	1.1
Battery	Point	65.4	332.29	-61.4	-0.1	-4.1	-1.8	0	-1.9
Battery	Point	65.4	348.28	-61.8	-0.1	-4.1	-1.9	0	-2.4
Battery	Point	65.4	416.52	-63.4	0	-4.2	-2.2	0	-4.3
Battery	Point	65.4	413.06	-63.3	0	-4.2	-2.2	0	-4.2
Battery	Point	65.4	361.29	-62.1	-0.1	-4.1	-1.9	0	-2.8
Battery	Point	65.4	357.21	-62.1	-0.1	-4.1	-1.9	0	-2.7
Battery	Point	65.4	351.79	-61.9	-0.1	-4.1	-1.9	0	-2.6
Battery	Point	65.4	395.31	-62.9	0	-4.1	-2.1	0	-3.8
Battery	Point	65.4	389.54	-62.8	0	-4.1	-2.1	0	-3.6
Battery	Point	65.4	386.52	-62.7	0	-4.1	-2.1	0	-3.5
Battery	Point	65.4	407.28	-63.2	0	-4.2	-2.1	0	-4.1
Battery	Point	65.4	403.91	-63.1	0	-4.1	-2.1	0	-4
Battery	Point	65.4	398.86	-63	0	-4.2	-2.1	0	-3.9
Battery	Point	65.4	367.19	-62.3	0	-4.1	-1.9	0	-2.9
Battery	Point	65.4	362.42	-62.2	-0.1	-4.1	-1.9	0	-2.8
Battery	Point	65.4	358.36	-62.1	-0.1	-4.1	-1.9	0	-2.7
Battery	Point	65.4	380.01	-62.6	0	-4.1	-2	0	-3.3
Battery	Point	65.4	376.54	-62.5	0	-4.1	-2	0	-3.2
Battery	Point	65.4	370.82	-62.4	0	-4.1	-2	0	-3
Battery	Point	65.4	375.44	-62.5	0	-4.1	-2	0	-3.2
Battery	Point	65.4	369.7	-62.3	0	-4.1	-1.9	0	-3
Battery	Point	65.4	366.05	-62.3	0	-4.1	-1.9	0	-2.9
Battery	Point	65.4	352.96	-61.9	-0.1	-4.1	-1.9	0	-2.6
Battery	Point	65.4	349.46	-61.9	-0.1	-4.1	-1.9	0	-2.5
Battery	Point	65.4	378.9	-62.6	0	-4.1	-2	0	-3.2
Battery	Point	65.4	316.9	-61	-0.1	-4.1	-1.7	0	-1.4
Battery	Point	65.4	504.19	-65	0	0	-2.8	0	-2.4
Battery	Point	65.4	498.43	-64.9	0	0	-2.8	0	-2.3
Battery	Point	65.4	494.72	-64.9	0	0	-2.8	0	-2.2
Battery	Point	65.4	516.38	-65.3	0	0	-2.9	0	-2.7
Battery	Point	65.4	512.85	-65.2	0	0	-2.9	0	-2.6
Battery	Point	65.4	507.47	-65.1	0	0	-2.8	0	-2.5
Battery	Point	65.4	612.29	-66.7	0	0	-3.3	0	-4.6
Battery	Point	65.4	615.49	-66.8	0	0	-3.3	0	-4.7
Battery	Point	65.4	621.42	-66.9	0	0	-3.4	0	-4.8
Battery	Point	65.4	489.77	-64.8	0	0	-2.8	0	-2.1
Battery	Point	65.4	486.17	-64.7	0	-2.1	-3	0	-4.4
Battery	Point	65.4	606.42	-66.6	0	0	-3.3	0	-4.5
Battery	Point	65.4	537.36	-65.6	0	0	-3	0	-3.2
Battery	Point	65.4	533.48	-65.5	0	0	-3	0	-3.1
Battery	Point	65.4	511.18	-65.2	0	0	-2.9	0	-2.6
Battery	Point	65.4	551.85	-65.8	0	0	-3	0	-3.4
Battery	Point	65.4	546.03	-65.7	0	0	-3	0	-3.3
Battery	Point	65.4	542.43	-65.7	0	0	-3	0	-3.3
Battery	Point	65.4	493.32	-64.9	0	0	-2.8	0	-2.2
Battery	Point	65.4	488.1	-64.8	0	0	-2.7	0	-2.1
Battery	Point	65.4	484.88	-64.7	0	-2.1	-3	0	-4.4
Battery	Point	65.4	505.79	-65.1	0	0	-2.8	0	-2.5
Battery	Point	65.4	502.28	-65	0	0	-2.8	0	-2.4
Battery	Point	65.4	496.89	-64.9	0	0	-2.8	0	-2.3
Battery	Point	65.4	624.5	-66.9	0	0	-3.4	0	-4.8
Battery	Point	65.4	556.93	-65.9	0	0	-3.1	0	-3.5
Battery	Point	65.4	553.1	-65.8	0	0	-3	0	-3.5
Battery	Point	65.4	584.13	-66.3	0	0	-3.2	0	-4.1
Battery	Point	65.4	571.39	-66.1	0	0	-3.1	0	-3.8
Battery	Point	65.4	565.94	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	562.39	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	565.43	-66	0	0	-3.1	0	-3.7

Battery	Point	65.4	562.33	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	556.88	-65.9	0	0	-3.1	0	-3.5
Battery	Point	65.4	580.67	-66.3	0	0	-3.2	0	-4
Battery	Point	65.4	575.1	-66.2	0	0	-3.1	0	-3.9
Battery	Point	65.4	571.85	-66.1	0	0	-3.1	0	-3.8
Battery	Point	65.4	605.98	-66.6	0	0	-3.3	0	-4.5
Battery	Point	65.4	611.03	-66.7	0	0	-3.3	0	-4.6
Battery	Point	65.4	614.74	-66.8	0	0	-3.3	0	-4.7
Battery	Point	65.4	630.41	-67	0	0	-3.4	0	-4.9
Battery	Point	65.4	633.51	-67	0	0	-3.4	0	-5
Battery	Point	65.4	602.41	-66.6	0	0	-3.3	0	-4.4
Battery	Point	65.4	632.87	-67	0	0	-3.4	0	-5
Battery	Point	65.4	580.09	-66.3	0	0	-3.2	0	-4
Battery	Point	65.4	574.72	-66.2	0	0	-3.1	0	-3.9
Battery	Point	65.4	620.42	-66.8	0	0	-3.3	0	-4.8
Battery	Point	65.4	623.87	-66.9	0	0	-3.4	0	-4.8
Battery	Point	65.4	629.15	-67	0	0	-3.4	0	-4.9
Battery	Point	65.4	554.73	-65.9	0	0	-3.1	0	-3.5
Battery	Point	65.4	647.79	-67.2	0	0	-3.5	0	-5.3
Battery	Point	65.4	631.79	-67	0	0	-3.4	0	-5
Battery	Point	65.4	628.42	-67	0	0	-3.4	0	-4.9
Battery	Point	65.4	660.3	-67.4	0	0	-3.5	0	-5.5
Battery	Point	65.4	656.98	-67.3	0	0	-3.5	0	-5.4
Battery	Point	65.4	651.1	-67.3	0	0	-3.5	0	-5.3
Battery	Point	65.4	610.15	-66.7	0	0	-3.3	0	-4.6
Battery	Point	65.4	604.83	-66.6	0	0	-3.3	0	-4.5
Battery	Point	65.4	600.96	-66.6	0	0	-3.3	0	-4.4
Battery	Point	65.4	622.81	-66.9	0	0	-3.4	0	-4.8
Battery	Point	65.4	619.41	-66.8	0	0	-3.3	0	-4.7
Battery	Point	65.4	613.72	-66.8	0	0	-3.3	0	-4.6
Battery	Point	65.4	675.47	-67.6	0	0	-3.6	0	-5.7
Battery	Point	65.4	679.03	-67.6	0	0	-3.6	0	-5.8
Battery	Point	65.4	657.66	-67.4	0	0	-3.5	0	-5.4
Battery	Point	65.4	660.96	-67.4	0	0	-3.5	0	-5.5
Battery	Point	65.4	666.37	-67.5	0	0	-3.5	0	-5.6
Battery	Point	65.4	670.15	-67.5	0	0	-3.6	0	-5.6
Battery	Point	65.4	674.72	-67.6	0	0	-3.6	0	-5.7
Battery	Point	65.4	669.16	-67.5	0	0	-3.6	0	-5.6
Battery	Point	65.4	665.98	-67.5	0	0	-3.5	0	-5.6
Battery	Point	65.4	652.16	-67.3	0	0	-3.5	0	-5.3
Battery	Point	65.4	648.59	-67.2	0	0	-3.5	0	-5.3
Battery	Point	65.4	678.14	-67.6	0	0	-3.6	0	-5.8
Battery	Point	65.4	630.77	-67	0	0	-3.4	0	-4.9
Battery	Point	65.4	558.88	-65.9	0	0	-3.1	0	-3.6
Battery	Point	65.4	553.32	-65.9	0	0	-3	0	-3.5
Battery	Point	65.4	549.99	-65.8	0	0	-3	0	-3.4
Battery	Point	65.4	532.53	-65.5	0	0	-3	0	-3.1
Battery	Point	65.4	491.24	-64.8	0	-3	-2.9	0	-5.3
Battery	Point	65.4	337.42	-61.6	-0.1	-4	-1.8	0	-2
Battery	Point	65.4	532.45	-65.5	0	0	-3	0	-3
Battery	Point	65.4	563.61	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	560.38	-66	0	0	-3.1	0	-3.6
Battery	Point	65.4	545.08	-65.7	0	0	-3	0	-3.3
Battery	Point	65.4	541.25	-65.7	0	0	-3	0	-3.2
Battery	Point	65.4	535.69	-65.6	0	0	-3	0	-3.1
Battery	Point	65.4	612.72	-66.7	0	0	-3.3	0	-4.6
Battery	Point	65.4	609.24	-66.7	0	0	-3.3	0	-4.6
Battery	Point	65.4	604.06	-66.6	0	0	-3.3	0	-4.5
Battery	Point	65.4	627.31	-66.9	0	0	-3.4	0	-4.9
Battery	Point	65.4	621.83	-66.9	0	0	-3.4	0	-4.8
Battery	Point	65.4	618.53	-66.8	0	0	-3.3	0	-4.7

Battery	Point	65.4	562.36	-66	0	0	-3.1	0	-3.6
Battery	Point	65.4	514.12	-65.2	0	0	-2.9	0	-2.7
Battery	Point	65.4	583.7	-66.3	0	0	-3.2	0	-4.1
Battery	Point	65.4	600.31	-66.6	0	0	-3.3	0	-4.4
Battery	Point	65.4	603.18	-66.6	0	0	-3.3	0	-4.4
Battery	Point	65.4	583.24	-66.3	0	0	-3.2	0	-4.1
Battery	Point	65.4	326.42	-61.3	-0.1	-4	-1.7	0	-1.7
Battery	Point	65.4	322.16	-61.2	-0.1	-3.7	-1.7	0	-1.2
Battery	Point	65.4	318.88	-61.1	-0.1	-3.9	-1.7	0	-1.4
Battery	Point	65.4	443.46	-63.9	0	-3.9	-2.2	0	-4.7
Battery	Point	65.4	334.27	-61.5	-0.1	-3.9	-1.8	0	-1.8
Battery	Point	65.4	329.45	-61.3	-0.1	-4.1	-1.8	0	-1.8
Battery	Point	65.4	329.63	-61.4	-0.1	-3.9	-1.8	0	-1.7
Battery	Point	65.4	324.74	-61.2	-0.1	-3.9	-1.7	0	-1.5
Battery	Point	65.4	321.66	-61.1	-0.1	-3.9	-1.7	0	-1.5
Battery	Point	65.4	314.23	-60.9	-0.1	-3.9	-1.7	0	-1.2
Battery	Point	65.4	311.36	-60.9	-0.1	-3.8	-1.7	0	-1
Battery	Point	65.4	332.82	-61.4	-0.1	-4	-1.8	0	-1.8
Battery	Point	65.4	452	-64.1	0	-3.8	-2.3	0	-4.8
Battery	Point	65.4	450.14	-64.1	0	-3.6	-2.3	0	-4.5
Battery	Point	65.4	461.39	-64.3	0	-4.2	-2.4	0	-5.4
Battery	Point	65.4	459.65	-64.2	0	-3.3	-2.3	0	-4.4
Battery	Point	65.4	456.76	-64.2	0	-3.6	-2.3	0	-4.6
Battery	Point	65.4	455.05	-64.2	0	-3.7	-2.3	0	-4.7
Battery	Point	65.4	450.19	-64.1	0	-3.7	-2.3	0	-4.6
Battery	Point	65.4	448.45	-64	0	-3.8	-2.3	0	-4.6
Battery	Point	65.4	445.34	-64	0	-3.9	-2.3	0	-4.7
Battery	Point	65.4	459.02	-64.2	0	-2.7	-2.3	0	-3.8
Battery	Point	65.4	455.79	-64.2	0	-3.5	-2.3	0	-4.6
Battery	Point	65.4	453.13	-64.1	0	-3.6	-2.3	0	-4.6
Battery	Point	65.4	317.36	-61	-0.1	-4	-1.7	0	-1.3
Battery	Point	65.4	275.28	-59.8	-0.1	-4.1	-1.5	0	-0.1
Battery	Point	65.4	270.86	-59.6	-0.1	-4	-1.5	0	0.1
Battery	Point	65.4	268.17	-59.6	-0.1	-4	-1.5	0	0.2
Battery	Point	65.4	285.33	-60.1	-0.1	-4.2	-1.6	0	-0.5
Battery	Point	65.4	282.45	-60	-0.1	-4.1	-1.6	0	-0.4
Battery	Point	65.4	278.36	-59.9	-0.1	-4.1	-1.6	0	-0.2
Battery	Point	65.4	330.16	-61.4	-0.1	-4.1	-1.8	0	-1.8
Battery	Point	65.4	325.61	-61.2	-0.1	-4	-1.7	0	-1.6
Battery	Point	65.4	321.95	-61.1	-0.1	-4.1	-1.7	0	-1.6
Battery	Point	65.4	342.1	-61.7	-0.1	-4.1	-1.8	0	-2.2
Battery	Point	65.4	338.76	-61.6	-0.1	-4.1	-1.8	0	-2.1
Battery	Point	65.4	333.49	-61.5	-0.1	-4	-1.8	0	-1.9
Battery	Point	65.4	298.24	-60.5	-0.1	-4.2	-1.6	0	-1
Battery	Point	65.4	295.22	-60.4	-0.1	-4.2	-1.6	0	-0.9
Battery	Point	65.4	290.72	-60.3	-0.1	-4.2	-1.6	0	-0.7
Battery	Point	65.4	314.01	-60.9	-0.1	-3.9	-1.7	0	-1.2
Battery	Point	65.4	309.3	-60.8	-0.1	-3.9	-1.7	0	-1
Battery	Point	65.4	306.38	-60.7	-0.1	-3.6	-1.6	0	-0.6
Battery	Point	65.4	276.52	-59.8	-0.1	-4	-1.6	0	-0.1
Battery	Point	65.4	292.97	-60.3	-0.1	-4.2	-1.6	0	-0.8
Battery	Point	65.4	289.92	-60.2	-0.1	-4.2	-1.6	0	-0.7
Battery	Point	65.4	287.9	-60.2	-0.1	-4.1	-1.6	0	-0.6
Battery	Point	65.4	283.87	-60.1	-0.1	-4.1	-1.6	0	-0.4
Battery	Point	65.4	280.85	-60	-0.1	-4	-1.6	0	-0.3
Battery	Point	65.4	553.97	-65.9	0	0	-3	0	-3.5
Battery	Point	65.4	529.75	-65.5	0	0	-2.9	0	-3
Battery	Point	65.4	525.08	-65.4	0	0	-2.9	0	-2.9
Battery	Point	65.4	566.45	-66.1	0	0	-3.1	0	-3.7
Battery	Point	65.4	562.99	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	557.43	-65.9	0	0	-3.1	0	-3.6

Battery	Point	65.4	508.77	-65.1	0	0	-2.8	0	-2.5
Battery	Point	65.4	505.47	-65.1	0	0	-2.8	0	-2.5
Battery	Point	65.4	536.68	-65.6	0	0	-3	0	-3.1
Battery	Point	65.4	521.82	-65.3	0	0	-2.9	0	-2.8
Battery	Point	65.4	516.28	-65.2	0	0	-2.9	0	-2.7
Battery	Point	65.4	513.36	-65.2	0	0	-2.9	0	-2.6
Battery	Point	65.4	571.42	-66.1	0	0	-3.1	0	-3.8
Battery	Point	65.4	565.6	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	562.49	-66	0	0	-3.1	0	-3.7
Battery	Point	65.4	553.53	-65.9	0	0	-3	0	-3.5
Battery	Point	65.4	580.52	-66.3	0	0	-3.2	0	-4
Battery	Point	65.4	574.27	-66.2	0	0	-3.1	0	-3.9
Battery	Point	65.4	580.76	-66.3	0	0	-3.2	0	-4
Battery	Point	65.4	575.83	-66.2	0	0	-3.1	0	-3.9
Battery	Point	65.4	572.01	-66.1	0	0	-3.1	0	-3.8
Battery	Point	65.4	556.68	-65.9	0	0	-3.1	0	-3.5
Battery	Point	65.4	553.71	-65.9	0	0	-3	0	-3.5
Battery	Point	65.4	584.36	-66.3	0	0	-3.2	0	-4.1
Battery	Point	65.4	533.47	-65.5	0	0	-3	0	-3.1
Battery	Point	65.4	492.63	-64.8	0	-3.4	-2.7	0	-5.6
Battery	Point	65.4	489.81	-64.8	0	-3.6	-2.6	0	-5.7
Battery	Point	65.4	486.54	-64.7	0	-3.8	-2.6	0	-5.7
Battery	Point	65.4	471.31	-64.5	0	-4.1	-2.4	0	-5.6
Battery	Point	65.4	497.87	-64.9	0	-2.8	-3	0	-5.3
Battery	Point	65.4	495.67	-64.9	0	-3.1	-2.9	0	-5.5
Battery	Point	65.4	481.21	-64.6	0	-4	-2.5	0	-5.7
Battery	Point	65.4	479.12	-64.6	0	-4.1	-2.5	0	-5.7
Battery	Point	65.4	467.79	-64.4	0	-4.2	-2.4	0	-5.6
Battery	Point	65.4	484.62	-64.7	0	-3.9	-2.5	0	-5.7
Battery	Point	65.4	462.27	-64.3	0	-4.2	-2.4	0	-5.4
Battery	Point	65.4	465.45	-64.3	0	-4.2	-2.4	0	-5.5
Battery	Point	65.4	473.43	-64.5	0	-4.1	-2.4	0	-5.6
Battery	Point	65.4	517.11	-65.3	0	0	-2.9	0	-2.7
Battery	Point	65.4	512.75	-65.2	0	0	-2.9	0	-2.6
Battery	Point	65.4	509.12	-65.1	0	0	-2.8	0	-2.6
Battery	Point	65.4	528.59	-65.5	0	0	-2.9	0	-3
Battery	Point	65.4	525.49	-65.4	0	0	-2.9	0	-2.9
Battery	Point	65.4	520.24	-65.3	0	0	-2.9	0	-2.8
Battery	Point	65.4	476.89	-64.6	0	-4	-2.5	0	-5.6
Battery	Point	65.4	478.83	-64.6	0	-3.9	-2.5	0	-5.6
Battery	Point	65.4	482.16	-64.7	0	-3.7	-2.6	0	-5.6
Battery	Point	65.4	485.01	-64.7	0	-3.6	-2.6	0	-5.5
Battery	Point	65.4	488.61	-64.8	0	-3.3	-2.8	0	-5.4
Battery A	Point	65.4	273.88	-59.7	-0.1	-3.9	-1.6	0	0.1
Grid Transformer	Point	86.4	517.36	-65.3	0.1	0	-2.8	0	18.5
Grid Transformer	Point	86.4	574.16	-66.2	0.2	0	-3.1	0	17.3
Inverter	Point	85.7	309.43	-60.8	-0.4	-3.8	-2.6	0	18.1
Inverter	Point	85.7	302.74	-60.6	-0.4	-3.5	-2.5	0	18.7
Inverter	Point	85.7	347.94	-61.8	-0.4	-3.7	-2.8	0	17
Inverter	Point	85.7	296.59	-60.4	-0.5	-3.6	-2.5	0	18.7
Inverter	Point	85.7	266.77	-59.5	-0.5	-3.4	-2.3	0	20.1
Inverter	Point	85.7	259.08	-59.3	-0.5	-3.3	-2.2	0	20.5
Inverter	Point	85.7	303.43	-60.6	-0.4	-3.6	-2.6	0	18.5
Inverter	Point	85.7	341.83	-61.7	-0.4	-3.6	-2.7	0	17.3
Inverter	Point	85.7	392.81	-62.9	-0.4	-3.6	-3	0	15.8
Inverter	Point	85.7	389.26	-62.8	-0.4	-3.8	-3.1	0	15.6
Inverter	Point	85.7	306.73	-60.7	-0.4	-3.6	-2.6	0	18.3
Inverter	Point	85.7	347.61	-61.8	-0.4	-3.6	-2.8	0	17.1
Inverter	Point	85.7	346.52	-61.8	-0.4	-2	-2.8	0	18.7
Inverter	Point	85.7	342.6	-61.7	-0.4	-3.6	-2.8	0	17.2
Inverter	Point	85.7	351.52	-61.9	-0.4	-3	-2.7	0	17.7

Inverter	Point	85.7	252.42	-59	-0.5	-3.5	-2.3	0	20.5
Inverter	Point	85.7	343.08	-61.7	-0.4	-3.4	-2.7	0	17.5
Inverter	Point	85.7	334.75	-61.5	-0.4	-3.6	-2.7	0	17.5
Inverter	Point	85.7	309.7	-60.8	-0.4	-3.3	-2.5	0	18.7
Inverter	Point	85.7	437.04	-63.8	-0.4	-3.5	-3.1	0	14.9
Inverter	Point	85.7	474.44	-64.5	-0.4	-3.9	-3.6	0	13.3
Inverter	Point	85.7	461.62	-64.3	-0.4	-3.9	-3.5	0	13.6
Inverter	Point	85.7	450.57	-64.1	-0.4	-3.5	-3.2	0	14.6
Inverter	Point	85.7	300.4	-60.5	-0.4	-3	-2.5	0	19.3
Inverter	Point	85.7	226.41	-58.1	-0.5	-4	-2.3	0	20.8
Inverter	Point	85.7	217.25	-57.7	-0.5	-3.5	-2	0	22
Inverter	Point	85.7	260.27	-59.3	-0.5	-2.8	-2.2	0	21
Inverter	Point	85.7	263.08	-59.4	-0.5	-3.7	-2.7	0	19.5
Inverter	Point	85.7	303.81	-60.6	-0.4	-2.1	-2.5	0	20
Inverter	Point	85.7	294.33	-60.4	-0.4	-3.2	-2.4	0	19.4
Inverter	Point	85.7	273.89	-59.7	-0.5	-3.5	-2.9	0	19.2
Inverter	Point	85.7	328.02	-61.3	-0.4	-3.3	-3.3	0	17.4
Inverter	Point	85.7	286.21	-60.1	-0.5	-4	-2.7	0	18.5
Inverter	Point	85.7	288.68	-60.2	-0.5	-3.5	-3	0	18.6
Inverter	Point	85.7	327.72	-61.3	-0.4	-3.8	-3	0	17.2
Inverter	Point	85.7	342.39	-61.7	-0.4	-3.8	-2.8	0	17
Inverter	Point	85.7	385.12	-62.7	-0.4	-3.8	-3.1	0	15.7
Inverter	Point	85.7	383.17	-62.7	-0.4	-3.7	-3	0	15.9
Inverter	Point	85.7	333.38	-61.5	-0.4	-3.8	-3	0	17
Inverter	Point	85.7	383.48	-62.7	-0.4	-3.1	-3.8	0	15.8
Inverter	Point	85.7	423.66	-63.5	-0.4	-3.6	-3.6	0	14.6
Inverter	Point	85.7	421.01	-63.5	-0.4	-4	-3.4	0	14.5
Inverter	Point	85.7	380.55	-62.6	-0.4	-3.9	-3.2	0	15.6
Inverter	Point	85.7	338.61	-61.6	-0.4	-3.2	-3.5	0	17.1
Inverter	Point	85.7	377.31	-62.5	-0.4	-3.1	-3.7	0	16
Inverter	Point	85.7	371.72	-62.4	-0.4	-3.9	-3.2	0	15.8
Inverter	Point	85.7	344.38	-61.7	-0.4	-3.8	-2.9	0	16.9
Inverter	Point	85.7	245.72	-58.8	-0.5	-3.9	-2.3	0	20.3
Inverter	Point	85.7	228.04	-58.2	-0.5	-3.9	-2.2	0	20.9
Inverter	Point	85.7	222.62	-57.9	-0.5	-3.8	-2.2	0	21.3
Inverter	Point	85.7	250.69	-59	-0.5	-3.8	-2.3	0	20.2
Inverter	Point	85.7	302.41	-60.6	-0.4	-3.8	-2.6	0	18.2
Inverter	Point	85.7	289.91	-60.2	-0.5	-3.8	-2.6	0	18.7
Inverter	Point	85.7	285.49	-60.1	-0.5	-3.8	-2.6	0	18.8
Inverter	Point	85.7	238.34	-58.5	-0.5	-3.9	-2.3	0	20.5
Inverter	Point	85.7	295.02	-60.4	-0.4	-3.8	-2.6	0	18.5
Inverter	Point	85.7	338	-61.6	-0.4	-3.8	-2.8	0	17.1
Inverter	Point	85.7	335.98	-61.5	-0.4	-3.8	-2.8	0	17.1
Inverter	Point	85.7	297.2	-60.5	-0.4	-3.9	-2.7	0	18.3
Inverter	Point	85.7	235.9	-58.4	-0.5	-3.9	-2.3	0	20.6
Inverter	Point	85.7	279.49	-59.9	-0.5	-3.9	-2.6	0	18.9
Inverter	Point	85.7	277.21	-59.8	-0.5	-3.8	-2.5	0	19.1
Inverter	Point	85.7	465.88	-64.4	-0.4	-3.9	-3.6	0	13.5
Inverter	Point	85.7	589.76	-66.4	-0.4	0	-5.1	0	13.8
Inverter	Point	85.7	547.84	-65.8	-0.4	0	-4.9	0	14.6
Inverter	Point	85.7	548.53	-65.8	-0.4	0	-4.9	0	14.6
Inverter	Point	85.7	597.13	-66.5	-0.4	0	-5.2	0	13.6
Inverter	Point	85.7	597.82	-66.5	-0.4	0	-5.2	0	13.6
Inverter	Point	85.7	589.06	-66.4	-0.4	0	-5.1	0	13.8
Inverter	Point	85.7	548.75	-65.8	-0.4	0	-4.9	0	14.6
Inverter	Point	85.7	519.28	-65.3	-0.4	0	-4.8	0	15.2
Inverter	Point	85.7	521.27	-65.3	-0.4	0	-4.8	0	15.2
Inverter	Point	85.7	479.44	-64.6	-0.4	-0.7	-5.5	0	14.4
Inverter	Point	85.7	548.31	-65.8	-0.4	0	-4.9	0	14.6
Inverter	Point	85.7	589.19	-66.4	-0.4	-0.2	-5.6	0	13.1
Inverter	Point	85.7	588.77	-66.4	-0.4	-0.2	-5.6	0	13.1

Inverter	Point	85.7	638.65	-67.1	-0.4	0	-5.3	0	12.9
Inverter	Point	85.7	643.63	-67.2	-0.4	0	-5.4	0	12.8
Inverter	Point	85.7	635.34	-67.1	-0.4	0	-5.3	0	12.9
Inverter	Point	85.7	636.86	-67.1	-0.4	0	-5.3	0	12.9
Inverter	Point	85.7	683.17	-67.7	-0.4	0	-5.5	0	12.1
Inverter	Point	85.7	684.45	-67.7	-0.4	0	-5.5	0	12.1
Inverter	Point	85.7	642.13	-67.1	-0.4	0	-5.3	0	12.8
Inverter	Point	85.7	594.38	-66.5	-0.4	0	-5.1	0	13.7
Inverter	Point	85.7	526.7	-65.4	-0.4	0	-4.8	0	15.1
Inverter	Point	85.7	528.64	-65.5	-0.4	0	-4.8	0	15
Inverter	Point	85.7	638.04	-67.1	-0.4	-0.2	-5.9	0	12
Inverter	Point	85.7	596.01	-66.5	-0.4	0	-5.2	0	13.6
Inverter	Point	85.7	566.95	-66.1	-0.4	0	-5	0	14.2
Inverter	Point	85.7	568.77	-66.1	-0.4	0	-5	0	14.2
Inverter	Point	85.7	481.57	-64.6	-0.4	-0.7	-5.5	0	14.4
Inverter	Point	85.7	478.58	-64.6	-0.4	-3.8	-3.7	0	13.2
Inverter	Point	85.7	543.06	-65.7	-0.4	0	-4.9	0	14.7
Inverter	Point	85.7	504.32	-65	-0.4	-0.8	-5.7	0	13.8
Inverter	Point	85.7	505.94	-65.1	-0.4	0	-4.7	0	15.5
Inverter	Point	85.7	499.11	-65	-0.4	0	-4.7	0	15.7
Inverter	Point	85.7	492.28	-64.8	-0.4	-1.4	-5.3	0	13.8
Inverter	Point	85.7	537.08	-65.6	-0.4	0	-4.9	0	14.8
Transformer	Point	59.4	441.48	-63.9	0	-3.9	-2.2	0	-10.6
Transformer	Point	59.4	343.76	-61.7	-0.1	-4.1	-1.8	0	-8.3
Transformer	Point	59.4	343.52	-61.7	-0.1	-4.1	-1.8	0	-8.3
Transformer	Point	59.4	568.23	-66.1	0	0	-3.1	0	-9.8
Transformer	Point	59.4	327.8	-61.3	-0.1	-4	-1.8	0	-7.8
Transformer	Point	59.4	328.39	-61.3	-0.1	-3.9	-1.8	0	-7.7
Transformer	Point	59.4	384.52	-62.7	0	-4.1	-2	0	-9.4
Transformer	Point	59.4	384.29	-62.7	0	-4.1	-2	0	-9.4
Transformer	Point	59.4	567.71	-66.1	0	0	-3.1	0	-9.8
Transformer	Point	59.4	528.05	-65.4	0	0	-2.9	0	-9
Transformer	Point	59.4	638.56	-67.1	0	0	-3.4	0	-11.1
Transformer	Point	59.4	638.39	-67.1	0	0	-3.4	0	-11.1
Transformer	Point	59.4	278.41	-59.9	-0.1	-4.1	-1.5	0	-6.2
Transformer	Point	59.4	278.76	-59.9	-0.1	-4.1	-1.5	0	-6.2
Transformer	Point	59.4	337.88	-61.6	-0.1	-4	-1.8	0	-8
Transformer	Point	59.4	296.5	-60.4	-0.1	-4.1	-1.6	0	-6.9
Transformer	Point	59.4	527.5	-65.4	0	0	-2.9	0	-9
Transformer	Point	59.4	337.11	-61.5	-0.1	-4.1	-1.8	0	-8.1
Transformer	Point	59.4	337.37	-61.6	-0.1	-4.1	-1.8	0	-8.1
Transformer	Point	59.4	340.51	-61.6	-0.1	-3.9	-1.8	0	-8
Transformer	Point	59.4	296.19	-60.4	-0.1	-4.1	-1.6	0	-6.8
Transformer	Point	59.4	446.2	-64	0	-3.9	-2.3	0	-10.7
Transformer	Point	59.4	375.45	-62.5	0	-3.9	-2.1	0	-9.1
Transformer	Point	59.4	336.64	-61.5	-0.1	-3.9	-1.9	0	-7.9
Transformer	Point	59.4	334.33	-61.5	-0.1	-4	-1.8	0	-8
Transformer	Point	59.4	382.35	-62.6	0	-3.9	-2.1	0	-9.2
Transformer	Point	59.4	380.96	-62.6	0	-4.1	-2	0	-9.3
Transformer	Point	59.4	373.62	-62.4	0	-4	-2	0	-9.1
Transformer	Point	59.4	683.87	-67.7	0	0	-3.6	0	-11.9
Transformer	Point	59.4	684.27	-67.7	0	0	-3.6	0	-11.9
Transformer	Point	59.4	474.43	-64.5	0	-4.1	-2.4	0	-11.7
Transformer	Point	59.4	642.78	-67.2	0	0	-3.4	0	-11.2
Transformer	Point	59.4	643.21	-67.2	0	0	-3.4	0	-11.2
Transformer	Point	59.4	469.99	-64.4	0	-4.2	-2.4	0	-11.6
Transformer	Point	59.4	595.54	-66.5	0	0	-3.2	0	-10.3
Transformer	Point	59.4	500.34	-65	0	-2.5	-3.1	0	-11.1
Transformer	Point	59.4	465.78	-64.4	0	-4.2	-2.4	0	-11.5
Transformer	Point	59.4	286.38	-60.1	-0.1	-4.1	-1.6	0	-6.5
Transformer	Point	59.4	287.1	-60.2	-0.1	-4	-1.6	0	-6.5

Transformer	Point	59.4	595.08	-66.5	0	0	-3.2	0	-10.3
Transformer	Point	59.4	496.14	-64.9	0	-2.6	-3	0	-11.2
Transformer	Point	59.4	422.35	-63.5	0	-4.2	-2.2	0	-10.5
Transformer	Point	59.4	423.1	-63.5	0	-4.1	-2.2	0	-10.4
Transformer	Point	59.4	636	-67.1	0	0	-3.4	0	-11
Transformer	Point	59.4	636.43	-67.1	0	0	-3.4	0	-11
Transformer	Point	59.4	470.25	-64.4	0	-4.2	-2.4	0	-11.6
Transformer	Point	59.4	237.13	-58.5	-0.1	-4.1	-1.3	0	-4.7
Transformer	Point	59.4	589.18	-66.4	0	0	-3.2	0	-10.2
Transformer	Point	59.4	589.06	-66.4	0	0	-3.2	0	-10.2
Transformer	Point	59.4	346.06	-61.8	-0.1	-4	-1.8	0	-8.2
Transformer	Point	59.4	270.55	-59.6	-0.1	-3.9	-1.6	0	-5.8
Transformer	Point	59.4	307.36	-60.7	-0.1	-3.8	-1.6	0	-6.9
Transformer	Point	59.4	305.35	-60.7	-0.1	-3.8	-1.6	0	-6.8
Transformer	Point	59.4	345.31	-61.8	-0.1	-3.6	-1.8	0	-7.8
Transformer	Point	59.4	344.34	-61.7	-0.1	-3.8	-1.8	0	-8
Transformer	Point	59.4	548.73	-65.8	0	0	-3	0	-9.4
Transformer	Point	59.4	344.27	-61.7	-0.1	-3.9	-1.8	0	-8.1
Transformer	Point	59.4	540.92	-65.7	0	0	-3	0	-9.2
Transformer	Point	59.4	297.81	-60.5	-0.1	-3.8	-1.6	0	-6.5
Transformer	Point	59.4	299.25	-60.5	-0.1	-3.9	-1.6	0	-6.7
Transformer	Point	59.4	480.9	-64.6	0	-2.2	-3	0	-10.4
Transformer	Point	59.4	257.83	-59.2	-0.1	-3.5	-1.4	0	-4.8
Transformer	Point	59.4	255.38	-59.1	-0.1	-3.3	-1.4	0	-4.5
Transformer	Point	59.4	223.56	-58	-0.1	-3.2	-1.2	0	-3.1
Transformer	Point	59.4	220.61	-57.9	-0.2	-3.2	-1.2	0	-3
Transformer	Point	59.4	480.3	-64.6	0	-2.2	-3	0	-10.4
Transformer	Point	59.4	520.09	-65.3	0	0	-2.9	0	-8.8
Transformer	Point	59.4	520.66	-65.3	0	0	-2.9	0	-8.8
Transformer	Point	59.4	301.31	-60.6	-0.1	-4	-1.6	0	-6.9
Transformer	Point	59.4	266.96	-59.5	-0.1	-3.9	-1.5	0	-5.7
Transformer	Point	59.4	264.38	-59.4	-0.1	-2.3	-1.4	0	-3.8
Transformer	Point	59.4	261.99	-59.4	-0.1	-2.7	-1.4	0	-4.1
Transformer	Point	59.4	548.6	-65.8	0	0	-3	0	-9.4
Transformer	Point	59.4	249.12	-58.9	-0.1	-4	-1.4	0	-5
Transformer	Point	59.4	247.77	-58.9	-0.1	-4.1	-1.4	0	-5
Transformer	Point	59.4	306.83	-60.7	-0.1	-3.8	-1.6	0	-6.8
Transformer	Point	59.4	287.37	-60.2	-0.1	-4.1	-1.6	0	-6.5
Transformer	Point	59.4	589.43	-66.4	0	0	-3.2	0	-10.2
Transformer	Point	59.4	589.63	-66.4	0	0	-3.2	0	-10.2
Transformer	Point	59.4	597.5	-66.5	0	0	-3.2	0	-10.3
Transformer	Point	59.4	597.7	-66.5	0	0	-3.2	0	-10.3
Transformer	Point	59.4	237.54	-58.5	-0.1	-4.2	-1.3	0	-4.7
Transformer	Point	59.4	501.19	-65	0	0	-2.8	0	-8.4
Transformer	Point	59.4	226.33	-58.1	-0.1	-4.1	-1.3	0	-4.2
Transformer	Point	59.4	224.8	-58	-0.1	-4.1	-1.3	0	-4.1
Transformer	Point	59.4	288.53	-60.2	-0.1	-4.1	-1.6	0	-6.5
Transformer	Point	59.4	538.96	-65.6	0	0	-3	0	-9.2
Transformer	Point	59.4	391.72	-62.9	0	-4	-2	0	-9.5
Transformer	Point	59.4	390.89	-62.8	0	-4.1	-2	0	-9.6
Transformer	Point	59.4	350.31	-61.9	-0.1	-3.6	-1.8	0	-7.9
Transformer	Point	59.4	349.35	-61.9	-0.1	-3.8	-1.8	0	-8.2
Transformer	Point	59.4	300.89	-60.6	-0.1	-3.5	-1.6	0	-6.3
Transformer	Point	59.4	304.27	-60.7	-0.1	-4	-1.6	0	-7
Transformer	Point	59.4	503.64	-65	0	0	-2.8	0	-8.4
Transformer	Point	59.4	303.82	-60.6	-0.1	-3.9	-1.6	0	-6.8
Transformer	Point	59.4	548.21	-65.8	0	0	-3	0	-9.4
Transformer	Point	59.4	548.41	-65.8	0	0	-3	0	-9.4
Transformer	Point	59.4	305.38	-60.7	-0.1	-4	-1.6	0	-7

The figure below includes the legend of the acoustic parameters.

Figure 8. Legend of acoustic parameters.

Legend

Source		Source name
Source type		Type of source (point, line, area)
Lw	dB(A)	Sound power level per unit
S	m	Distance source - receiver
Adiv	dB	Mean attenuation due to geometrical spreading
Agr	dB	Mean attenuation due to ground effect
Abar	dB	Mean attenuation due to screening
Aatm	dB	Mean attenuation due to air absorption
Lr	dB(A)	Assessed level of time slice

End of Report