Site Visit Report

The site visit process is a sample on a particular day of an installation's compliance with some of its licence conditions. Where non-compliance against a particular condition has not been reported, this should not be construed to mean that there is full compliance with that condition of the licence.

Instructions and actions arising from the visit shall be addressed, or where applicable noted, by the licensee in order to ensure compliance, to improve the environmental performance of the installation and to provide clarification on certain issues.

The licensee shall take the actions specified to close out the non-compliances and observations raised in this Site Visit Report.

The licensee may also be requested to provide a response to the Environmental Protection Agency (hereafter referred to as the Agency) in relation to the site visit report findings.

Licensee

Name of Installation	Irish Cement Limited (Limerick)
Licensee	Irish Cement Limited
Licence Register No.	P0029-06
CRO Number	9212
Site Address	Castlemungret, Limerick
Site Visit Reference No.	SV33433

Report Detail

Issue Date	09/01/2026
Prepared By	Niall Stenson

Site Visit Detail

Date Of Inspection	24/11/2025		
Time In	23:00	**Time Out**	04:30
EPA Inspector(s)			
Additional Visitors	RPS		
Licensee Personnel and Role	n/a		

Summary

This site visit was conducted to carry out monitoring of noise in the vicinity of the licensed site. The monitoring report is attached.

The licensee was found to be in compliance with their licence at the time of monitoring.

Site Areas Inspected

See report.

Documents Inspected

See report.

Irish Cement Noise Monitoring

IE Licence Reg No. P0029-06

IE001017
Irish Cement Noise
Monitoring
F01
04 December 2025

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
D01	Draft	SM	BC	JM	03/12/2025
F01	Final	SM	BC	JM	03/12/2025

Approval for issue

JM	04/12/2025

Prepared by:	Prepared for:
RPS	**Environmental Protection Agency**

Dublin | Cork | Galway | Sligo | Kilkenny
rpsgroup.com

RPS Group Limited, registered in Ireland No. 91911
RPS Consulting Engineers Limited, registered in Ireland No. 161581
RPS Engineering Services Limited, registered in Ireland No. 99795
The Registered office of each of the above companies is West Pier Business Campus, Dun Laoghaire, Co. Dublin, A96 N6T7

Glossary

A-weighting	A spectrum adaption that is applied to measured noise levels to represent human hearing. A-weighted levels are used as human hearing does not respond equally at all frequencies.
dB	Decibel: a unit of measurement used to express sound level. It is based on a logarithmic scale which means a sound that is 3 dB higher has twice as much energy. Humans typically perceive a 10 dB increase in sound as a doubling of that sound level.
dB(A)	Decibel, A-weighted.
$L_{Aeq,T}$	The A-weighted equivalent continuous noise level. Energy average of noise over the sample period (T).
L_{AFmax}	The maximum RMS A-weighted sound pressure level measured with a fast time weighting occurring within a specified time period.
L_{AF90}	Refers to those A-weighted noise levels in the lower 90 percentile of the sampling interval; it is the level which is exceeded for 90% of the measurement period. It is commonly used to describe a background noise level.
L_{AF10}	Refers to those A-weighted noise levels in the top 10 percentile of the sampling interval; it is the level which is exceeded for 10% of the measurement period. It is used to determine the intermittent high noise level features of locally generated noise and usually gives an indicator of the level of road traffic.
$L_{AR,T}$	The rating level ($L_{AR,T}$) is calculated by adding a penalty to the measured equivalent continuous A-weighted sound pressure level ($L_{Aeq,T}$). Typically, penalties are added for noise with tonal or impulsive characteristics.
Ambient sound	Total sound at a given location, includes sound from source(s) being measured and any extraneous noise sources near and far which may be present.
Ambient sound level	A-weighted equivalent sound pressure level of the total sound at a given location.
Specific sound source	Sound source being assessed.

Specific sound level	Equivalent continuous A-weighted sound pressure level of the residual sound at the assessment location over a given time interval.
Residual sound	Ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound.
Residual sound level	Equivalent continuous A-weighted sound pressure level of the residual sound at the assessment location over a given time interval.
Background sound level	A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval.
NSL	Noise Sensitive Location, a dwelling or other location (e.g. nursing home, hotel, health centre) where a person may experience adverse impacts due to noise.

Executive Summary

RPS was commissioned by the Environmental Protection Agency (EPA) to conduct a noise monitoring survey and compliance assessment of the site operations at the Irish Cement Limited facility at Castlemungret, Co. Limerick to support an EPA noise complaint investigation. The facility operates under IE Licence P0029-06.

The methodology for the noise survey generally followed the EPA's 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)', published in 2016.

Subjectively perceptible tonal noise has been objectively analysed using BS4142 Annex C and Annex D methodology, as recommended by NG4.

In summary, findings of the assessment include:

- Facility noise was audible during all measurements but was not observed to be the dominant noise source.
- Tonal noise from the facility was subjectively observed to be perceptible during all measurements.
- Both the subjective and objective assessment of tonal noise conducted as part of this assessment did not confirm the presence of clearly audible tonal noise from the facility during the survey.
- Noise levels from the facility have been assessed to be below the licensed noise levels during the survey.

During the survey, the Irish Cement Limited facility is deemed to have been compliant with the night-time noise limits set out in IE Licence P0029-06.

Contents

Tables

Figures

Appendices

1 Introduction

RPS was commissioned by the Environmental Protection Agency (EPA) to conduct a noise monitoring survey and compliance assessment of the site operations at the Irish Cement Limited facility at Castlemungret, Co. Limerick to support an EPA noise complaint investigation. The facility operates under IE Licence P0029-06.

1.1 Site Description

The facility is located in Castlemungret, west of Limerick City, in a mixed suburban and rural environment. Areas to the west and north of the site and adjoining quarry predominantly comprise agricultural land, with dwellings in ribbon-style development at Loughanleigh, Corbally and further west at Carrig East. Directly south of the site lie several residential dwellings and national road N69, which runs through the town of Mungret. There are residential dwellings located along the N69 and further south along roads such as R859, Rathmale and Caher Road. To the east of the site, the N69 meets the Limerick Southern Ring Road (N18) c. 1 km away. Lands directly adjacent to the site in this direction are primarily agricultural in nature, with some minor commercial development along the N69. To the southeast lies extensive residential development off the R859 and R510. The M20 is located c. 3.5 km away in this direction. Figure 1-1 presents an aerial view showing the Irish Cement Limited facility in the greater context.

Figure 1-1: Aerial view showing the Irish Cement Limited facility in the greater context.

2 Assessment Criteria

2.1 IE Licence P0029-06

With regard to noise emissions, IE Licence P0029-06 outlines the facility's requirements under Condition 4.5 and 6.19 as follows:

- Condition 4.5.1 "Noise from the installation shall not give rise to sound pressure levels ($L_{Aeq,T}$) measured at the specified noise sensitive locations which exceed the limit values."
- Condition 4.5.2 "There shall be no tonal component or impulsive component in the noise emissions from the activity at any Noise Sensitive Location."

Schedule C.4 outlines the noise emissions limit values that are applicable to the facility. These are presented in Table 2.1 below.

Table 2.1: P0029-06 Noise Emissions Limit Values

Daytime dB $L_{Ar,T}$ (30 minutes)	Evening time dB $L_{Ar,T}$ (30 minutes)	Night-time dB $L_{Aeq,T}$ (15-30 minutes)	Tonal/Impulsive Component
55	50	45	No clearly audible

The licence states that "*There shall be no tonal component or impulsive component in the noise emissions from the activity at any Noise Sensitive Location.*" Assessment of tonal audibility is conducted with guidance from EPA's 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)', published in 2016 (see Section 2.2 below).

The daytime period, as defined in IE Licence P0029-06, is from 07:00 to 19:00 hrs, the evening period is defined as 19:00 to 23:00 hrs and the night-time period is defined as 23:00 to 07:00 hrs.

2.2 Assessment of Tonal and Impulsive Noise

NG4 refers to BS4142 with regard to the assessment of tonal noise and states *"A tonal noise source can normally be subjectively identified by a competent person familiar with noise impact assessments".* BS4142 recommends rating penalties for tonal and impulsive noise subjectively described as "just perceptible", "clearly perceptible", and "highly perceptible" and details three methods for tonal noise assessment, the subjective method, the Annex C one-third octave method, and the Annex D Joint Nordic Method, high-level descriptions of which are listed below:

- Subjective Method: relies on professional judgement to determine a tonal penalty ranging from 0 to +6 dB, with a penalty of +2 dB for just perceptible, +4 dB for clearly perceptible and +6 dB for highly perceptible tones.
- Annex C One-Third Octave Method: can only identify a "highly perceptible" tone, with a penalty of +6 dB, when the sound pressure level in the one-third octave band containing the tone exceeds both side band levels by an amount greater than or equal to the threshold value for that frequency range.
- Annex D Joint Nordic Method: for sound ranging from not tonal to highly tonal this method gives a correction, K_t, of between 0 dB and +6 dB for tonality – BS4142 suggests calculating K_t to one decimal point and rounding the result to an integer value.

NG4 states *"During the night-time period no tonal or impulsive noise from the facility should be clearly audible or measurable at any NSL"*, i.e., that noise from a facility measured at a noise sensitive location during the night-time should not contain a tone that results in a BS4142 tonal

penalty of +4 dB. The results of the three BS4142 methods corresponding to tonal penalties, and how they relate to compliance with the NG4 night-time tonal noise criterion, are summarised in Table 2.2.

Table 2.2: Tonal assessment method results corresponding to BS4142 tonal penalties and compliance with the NG4 night-time tonal noise criterion.

NG4 Night-time Criterion	Tonal Penalty	Subjective Method Description	Annex C One-Third Octave Method Result	Annex D Joint Nordic Method K_t Integer Value
Compliant	+2 dB	Just Perceptible	--	+2 dB
Not Compliant	+4 dB	Clearly Perceptible	--	+4 dB
Not Compliant	+6 dB	Highly Perceptible	Tone identified	+6 dB

Given the above, where the penalty arrived at from a tonal assessment of facility night-time noise measurements is less than +4 dB, the facility will be judged to be in compliance with the NG4 night-time tonal noise criterion. Subjective descriptions of tonality will be given as “just perceptible”, “perceptible”, “clearly perceptible” and “highly perceptible”.

BS4142 states the following regarding impulsive noise, *“A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible”.* Impulsive noise can be assessed either subjectively or using the BS4142 Annex E reference method.

The results of the two BS4142 methods corresponding to impulsivity penalties, and how they relate to compliance with the NG4 night-time impulsive noise criterion, are summarised in Table 2.3.

Table 2.3: Impulsivity assessment method results corresponding to BS4142 tonal penalties and compliance with the NG4 night-time tonal noise criterion.

NG4 Night-time Criterion	Impulsivity Penalty	Subjective Method Description	Annex E Nordtest Method K_t Integer Value
Compliant	+3 dB	Just Perceptible	+3 dB
Not Compliant	+6 dB	Clearly Perceptible	+6 dB
Not Compliant	+9 dB	Highly Perceptible	+9 dB

Given the above, where the penalty arrived at from an impulsivity assessment of facility night-time noise measurements is less than +6 dB, the facility will be judged to be in compliance with the NG4 night-time impulsive noise criterion.

3 Methodology

The methodology for the noise survey generally followed EPA NG4 guidance. An attended survey was conducted in the front drive of the complainant's property during the night-time period, as defined in IE Licence P0029-06. Additionally, seven spot measurements were undertaken in the surrounding area. All measurements were undertaken on the 24th and 25th of November 2025.

3.1 Survey Location

The noise monitoring survey was undertaken at a height of 4.0 m in the front drive of the complainant's property (labelled "NML"), which is a two-storey dwelling along Caher Road. Photographs of the noise monitoring location are provided in Appendix A.

Additionally, seven spot measurements were undertaken in the surrounding area covering locations north, south, east and west of the complainant's property. All noise monitoring locations are presented in Figure 3-1.

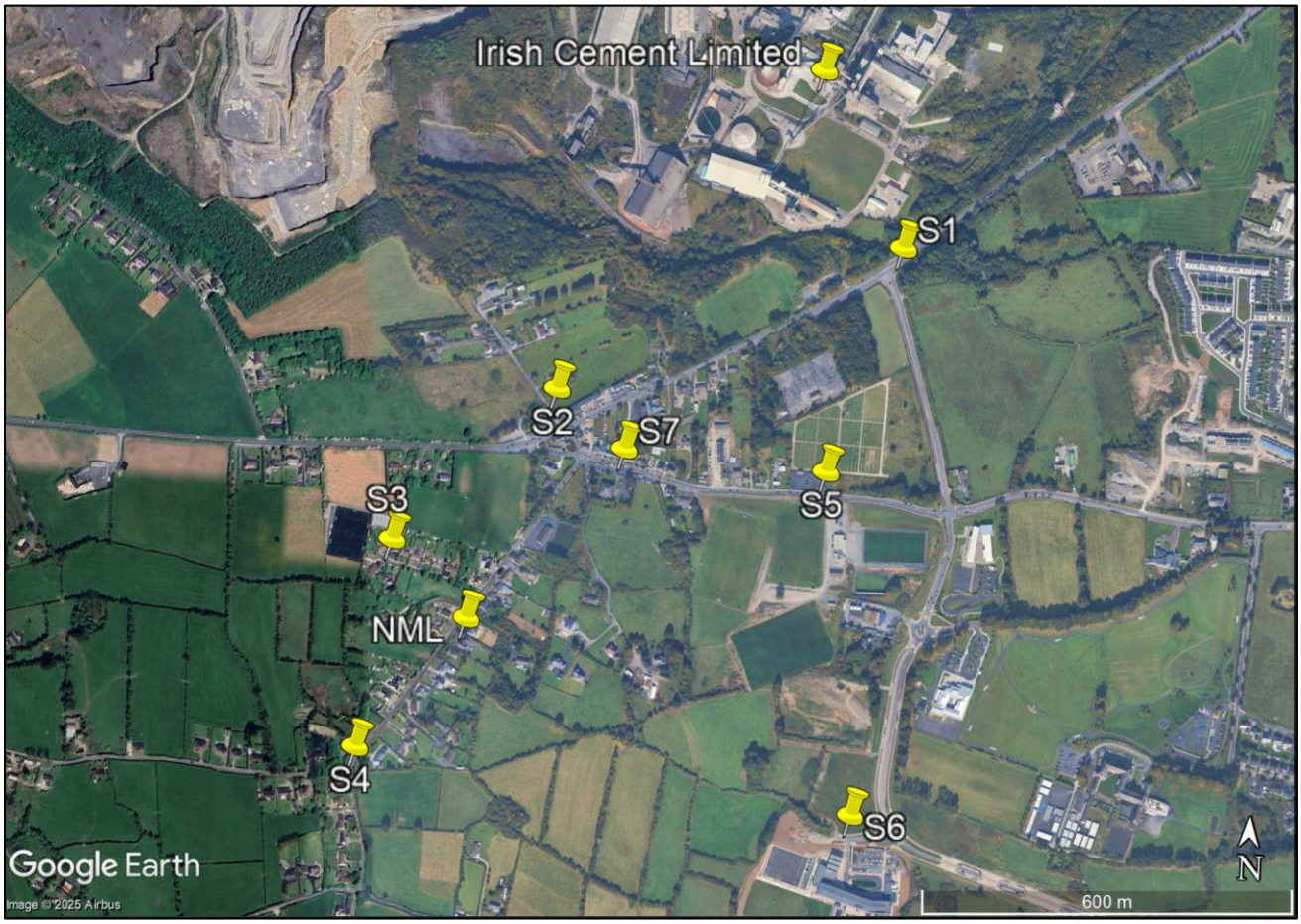


Figure 3-1: Aerial view showing the noise monitoring locations.

3.2 Instrumentation

A Class 1 Sound Level Meter in accordance with IEC 61672-1:2013 was used for all measurements. Table 3.1 summarises the measurement equipment used.

Table 3.1: Measurement Equipment

Description	Manufacturer	Model	Serial Number
Sound Level Meter	Brüel and Kjær	2250	2690265
Acoustic Calibrator	Svantek	SV36	124177

All equipment has calibration certificates traceable back to the relevant standard. A calibration check of the sound level meter was conducted prior to and following the survey period using an external acoustic calibrator, with a calibration drift of 0.05 dB observed. This is below the 0.5 dB permitted drift for valid measurements as specified by ISO 1996-2:2017. Equipment calibration certificates are provided in Appendix B.

3.3 Meteorological Conditions

During the night-time survey, the weather was generally cool and dry and cloud cover was low. Temperatures peaked during the first measurement at 5 °C and reduced over the survey period to a low of 3 °C. Average wind speeds (northerlies) were very low, with wind speeds of less than 1.0 m/s observed during all measurements. No extreme gusts were observed.

3.4 Measurement Procedure

All measurements at the complainant's property were undertaken at a height of 4.0 m and all spot measurements were at a height of 1.5 m. All measurements were performed in accordance with ISO 1996-1:2016 and taken free field, at least 3.5 m away from any reflective surface or structure other than the ground. Measurements at the complainant's property consisted of 15-minute 1/3 octave band measurements. Depending on location, each spot measurement was either a 5 or 15-minute 1/3 octave band measurements.

4 Results

4.1 Summary of Ambient Noise Monitoring Results

The results of the night-time noise measurements at the complainant's property are summarised in Table 4.1. All results are presented rounded to the nearest whole integer, with 0.5 being rounded up.

Table 4.1: Summary of ambient noise monitoring results at NML (Complainant's Property).

Start Time	Subjectively Observed Tonality	Subjectively Observed Impulsivity	Measured Noise Levels (dB re. 2 × 10^{-5} Pa)		
			L_{Aeq}*	L_{AFmax}	L_{AF90}
24/11/2025 23:14	Perceptible	None	47	73	43
24/11/2025 23:29			45	66	42
25/11/2025 00:53			45	63	41
25/11/2025 01:08			44	58	41
25/11/2025 02:04			44	71	42
25/11/2025 02:19			44	57	42
25/11/2025 03:50			44	54	42
25/11/2025 04:05			45	59	42

Subjective Observations

- Road traffic noise (RTN) from N69, R859 and local roads was the dominant source when present; traffic was intermittent with frequent breaks and RTN fell during the period until rising at the final measurement.
- Continuous low-level distant RTN (likely N18 and/or M20) was audible throughout.
- Facility noise was audible in all measurements and was not dominant when distant RTN from N69/R859/local roads was absent.
- Facility noise was steady: low-frequency rumble and continuous drone with mid-frequency tones that modulated slightly.
- Other occasional sounds: distant reverse warnings, faint alarms, dogs barking, local activity, and brief bird calls.

* L_{Aeq} has been edited to remove instances of vehicle passes on Caher Road, which significantly impacted the measured noise levels. A brief aircraft flyover during the third measurement has also been removed.

4.2 Discussion

As noted in the subjective observations in Table 4.1: Summary of ambient noise monitoring results at NML (Complainant's Property)., RTN from local roads was dominant when present and distant RTN was constant throughout the survey, forming a substantial component of the ambient sound-field in the absence of local traffic. Steady-state facility noise was audible during lulls in local road traffic, consisting of a low frequency rumble, a low frequency drone and perceptible, slightly modulating, tonal components in the mid frequency range.

The exceedance of the 45 dB L_{Aeq} night-time noise criterion during the first measurement is attributed to RTN from local roads. Given the steady state nature of the noise emissions from the facility and the measured noise levels of 44 dB $L_{Aeq,15min}$ during periods where RTN was subjectively at a minimum, facility noise emissions are assessed to be below the night-time noise criterion during the survey period at the monitoring location. As facility noise was not dominant and all

measurements included contributions of RTN, the actual facility noise levels at the NSL were likely less than the ambient 44 dB $L_{Aeq,15min}$ measured during the survey.

4.3 BS4142 Annex C 1/3 Octave Band Tonal Assessment

Figure 4-1 shows the 1/3 octave band spectrum for the sixth night-time measurement. During this measurement, the tonal component of the facility's noise emissions was subjectively judged to be perceptible and distant road traffic noise was subjectively judged to be at its lowest during the survey period.

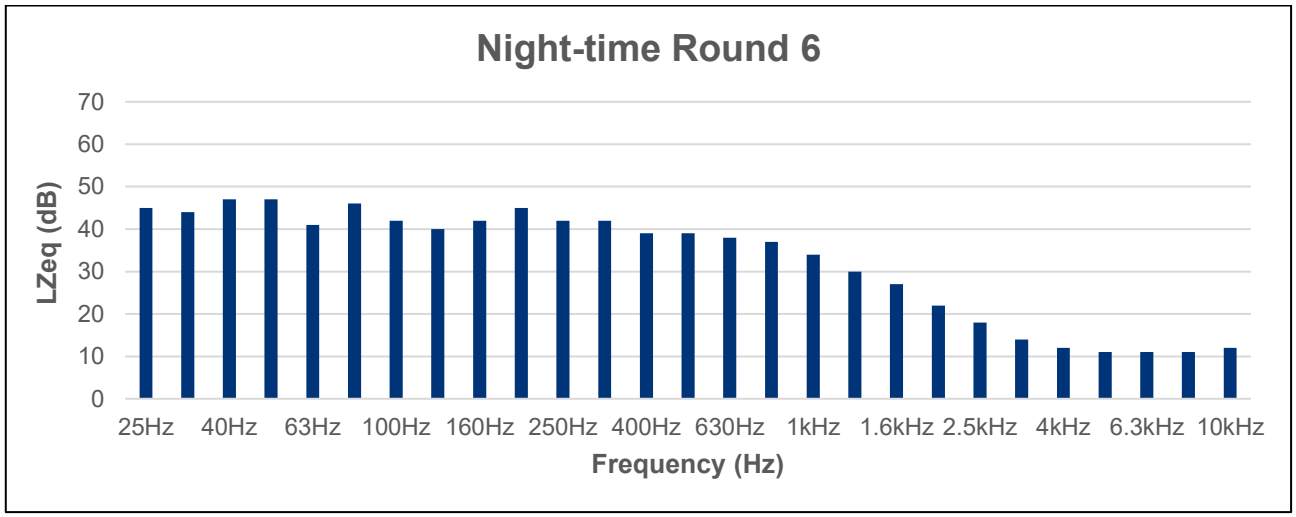


Figure 4-1: Unweighted 1/3 octave band spectrum of sixth night-time measurement.

Table 4.2 shows the results of the BS4142 Annex C 1/3 octave band analysis. The prominence threshold above adjacent 1/3 octave bands is not exceeded for any of the 1/3 octave levels in the spectrum and therefore, the presence of a "highly perceptible" tone is not confirmed by this objective analysis. Analysis for other measurements conducted during the survey is presented in Appendix C.

Table 4.2: Extract of 1/3 octave band tonal assessment results of the sixth night-time measurement

Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	45	0	1	15	**No**
31.5	44	-1	-3	15	**No**
40	47	3	0	15	**No**
50	47	0	6	15	**No**
63	41	-6	-5	15	**No**
80	46	5	4	15	**No**
100	42	-4	2	15	**No**
125	40	-2	-2	15	**No**
160	42	2	-3	8	**No**

Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
200	45	3	3	8	**No**
250	42	-3	0	8	**No**
315	42	0	3	8	**No**
400	39	-3	0	8	**No**

4.4 BS4142 Annex D Tonal Assessment

While the BS4142 Annex C tonal assessment did not identify any tones, it is deemed appropriate to conduct further tonal analysis in accordance with the BS4142 Annex D Joint Nordic Method due to the subjectively perceptible tonal components of the facility's noise emissions. Table 4.3 provides the results of this analysis and compares the results against the criteria outlined in Table 2.2. All results are rounded to the nearest integer value.

Table 4.3: Results of the BS4142 Annex D tonal assessment.

Start Time	Maximum K_t Identified (dB)	Tonal Noise Determination
24/11/2025 23:14	0	Compliant
24/11/2025 23:29	0	
25/11/2025 00:53	0	
25/11/2025 01:08	0	
25/11/2025 02:04	0	
25/11/2025 02:19	0	
25/11/2025 03:50	0	
25/11/2025 04:05	0	

A K_t correction of 0 dB was assigned to all eight measurements, meaning the presence of a clearly audible tone is not confirmed by the BS4142 Annex D tonal assessment.

4.5 Summary of Spot Measurement Results

Seven spot measurements were undertaken at the locations shown on Figure 3-1 in order to comprehensively characterise the surrounding noise environment and to identify any noise sources other than the facility which may be contributing to the noise complaint. The spot measurement results are summarised in Table 4.4. All results are presented rounded to the nearest whole integer, with 0.5 being rounded up.

Table 4.4: Summary of spot measurement results.

Location	Start Time	Duration	Measured Noise Levels (dB re. 2 × 10^{-5} Pa)		
			L_{Aeq}*	L_{AFmax}	L_{AF90}
S1	24/11/2025 23:59	15:00	52	89	51
S2	25/11/2025 00:23	15:00	46	75	45
S3	25/11/2025 01:46	05:00	38	53	32
S4	25/11/2025 01:33	05:00	44	52	41
S5	25/11/2025 03:14	05:00	47	66	45
S6	25/11/2025 03:31	05:00	45	52	43
S7	25/11/2025 03:02	05:00	39	59	36

* L_{Aeq} has been edited to remove instances of vehicle passes which significantly impacted the measured noise levels.

S1, closest to the facility, was dominated by facility noise when N69 traffic was absent and showed the highest level (52 dB). S2, S5 and S6 had direct line of sight and measured 46, 47 and 45 dB respectively. S4, the furthest with partial sight of the tallest site structures, measured 44 dB. S3 and S7 were screened by buildings and showed substantially lower facility noise. Section 4.2 noted mid-frequency tones at the complainant's property: despite a K_t correction of 0, four frequencies (150, 225, 318.75 and 350 Hz) were repeatedly identified as potentially tonal and matched subjective observations. Table 4.5 lists the measured levels for these frequencies at all locations.

Table 4.5: Frequencies identified as potentially tonal at the complainant's property.

Frequency (Hz)	Level at NML (dB)	Level at Spot Measurement Locations (dB)						
		S1	S2	S3	S4	S5	S6	S7
150	25	30	22	8	23	26	20	16
225	30	29	29	9	22	24	16	16
318.75	26	25	33	21	29	26	31	26
350	27	34	33	16	20	34	33	19

Based on measurements at NML and locations S1–S7, spectral and broadband data indicate trends consistent with geometrical spreading and screening, with no evidence of excess emissions or tonal sources attributable to the facility beyond expected propagation. Variations at 225 and 318.75 Hz can be attributed to line-of-sight, localized screening, or plant directionality.

Excluding road traffic noise and facility noise emissions, no significant noise sources were identified during any of the spot measurements.

4.6 Determination of Compliance

Table 4.6 below summarises the measured noise levels at the complainant's property and compares them against the night-time noise limit specified in IE Licence P0029-06 (see Table 2.1).

Table 4.6: Summary of noise monitoring results.

Start Time	Noise Level (L_{Aeq})	Facility Noise Dominant?	Tonal Noise Confirmed?	Compliant?
24/11/2025 23:14	47	No	No	Yes
24/11/2025 23:29	45			
25/11/2025 00:53	45			
25/11/2025 01:08	44			
25/11/2025 02:04	44			
25/11/2025 02:19	44			
25/11/2025 03:50	44			
25/11/2025 04:05	45			

In summary, during the survey, the Irish Cement Limited facility is deemed to have been in compliance with the night-time noise limits set out in IE Licence P0029-06.

5 Conclusion

RPS was commissioned by the Environmental Protection Agency (EPA) to conduct a noise monitoring survey and compliance assessment of the site operations at the Irish Cement Limited facility at Castlemungret, Co. Limerick to support an EPA noise complaint investigation. The facility operates under IE Licence P0029-06.

The methodology for the noise survey generally followed the EPA's 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)', published in 2016.

Subjectively perceptible tonal noise has been objectively analysed using BS4142 Annex C and Annex D methodology, as recommended by NG4.

In summary, findings of the assessment include:

- Facility noise was audible during all measurements but was not observed to be the dominant noise source.
- Tonal noise from the facility was subjectively observed to be perceptible during all measurements.
- Both the subjective and objective assessment of tonal noise conducted as part of this assessment did not confirm the presence of clearly audible tonal noise from the facility during the survey.
- Noise levels from the facility have been assessed to be below the licensed noise levels during the survey.

During the survey, the Irish Cement Limited facility is deemed to have been compliant with the night-time noise limits set out in IE Licence P0029-06.

Appendices

Appendix A Photographs of Noise Monitoring Location

Figure 5-1: Photographs of the Noise Monitoring Location

Appendix B Equipment Calibration Certificates

NSAI
National Metrology Laboratory

Certificate of Calibration

Issued to

RPS Consulting Engineers Ltd
West Pier Business
Dun Laoghaire
Co Dublin

Certificate Number	**25-4242**
Item Calibrated	Bruel & Kjaer 2250 Sound Level Meter
Serial Number	2690265
ID Number	None
Order Number	30783
Date Received	09 Apr 2025
NML Procedure Number	TFAP-NM-16 Rev 1.2
Method	The above sound level meter was allowed to stabilise for a suitable period in laboratory conditions. It was then calibrated by carrying out the verification tests detailed in IEC 61672-3 (2006), *Periodic tests, specification for the verification of sound level meters*. This standard specifies a procedure for the periodic verification of conformance of a sound level meter or integrating-averaging meter to IEC 61672-1 (2003).
Calibration Standards	Norsonic 1504A Calibration System incorporating: SR DS360, No. 0735 (Cal. Due Date: 24 Mar 2026) Agilent 34401A, No. 0736 (Cal. Due Date: 25 Mar 2026) B&K 4180, No. 1069 (Cal. Due Date: 15 Sep 2025) B&K 4228, No. 0741 (Cal. Due Date: 14 Sep 2025) B&K 4226, No. 0150 (Cal. Due Date: 20 Mar 2026)

Calibrated by	David Fleming	Approved by	Ronan O'Doherty
Date of Calibration	04 Jun 2025	Date of Issue	04 Jun 2025

CIPM MRA

This certificate is consistent with Calibration and Measurement Capabilities (CMCs) that are included in Appendix C of the Mutual Recognition Arrangement (MRA) drawn up by the International Committee for Weights and Measures (CIPM). Under the MRA, all participating institutes recognize the validity of each other's calibration certificates and measurement reports for quantities, ranges and measurement uncertainties specified in Appendix C (for details see www.bipm.org)

Glas Naíon | Baile Átha Cliath 11 | Eire
Glasnevin | Dublin 11 | Ireland T+353 1 808 2609 | F+353 1 808 2603 | NSAI.ie

Page 1 of 8

CALIBRATION CERTIFICATE

Issued By AcSoft Limited Calibration Laboratory

Date Of Issue: 17-12-2024 **Certificate No:** 1510189-2

Calibrated By: W. Jay

Approved By: W. Jay

CUSTOMER RPS Consulting UK & Ireland

INSTRUMENT DETAILS

Manufacturer:	SVANTEK
Model:	SV36
Serial No.:	124177
Description:	Acoustic Calibrator accuracy class 1 with nominal level of 94 dB and 114 dB, and nominal frequency of 1000 Hz

P/O NUMBER 30445
DATE RECEIVED 12-12-2024
DATE CALIBRATED 17-12-2024

ENVIRONMENTAL CONDITIONS

Temperature:	20.5	°C
Humidity:	40.8	%rh
Pressure:	102.4	kPa

CALIBRATION RESULTS The calibrator submitted for testing has successfully completed the Periodic tests of IEC 60942:2003 (BS EN 60942:2003) (Annex B), for class 1 sound calibrators, for the environmental conditions under which the tests were performed.

REPORTED RESULTS The results contained in this Certificate refer only to the measurements made at the time of test for the instrument detailed above. These results do not reflect the instrument's ability to maintain calibration.

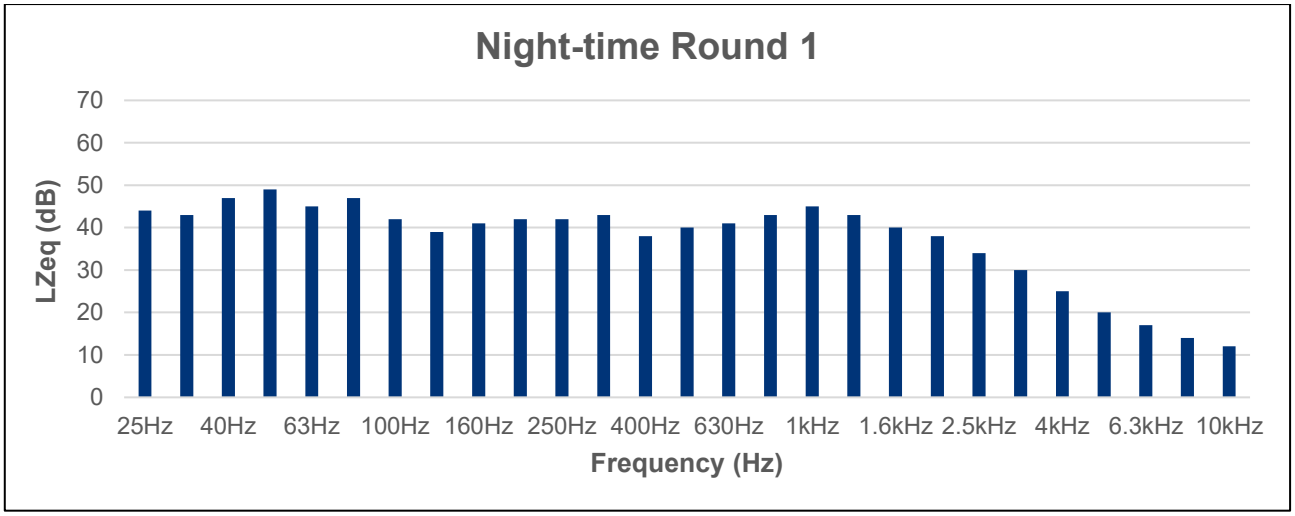
MEASUREMENT TRACEABILITY

The instrument under test was calibrated using the following equipment:
Svantek SV30A Acoustic Calibrator, ACS023, Certificate No. 06397/1
GRAS 40AG Reference Microphone, ACS009, Certificate No. 06448/2
LAB-EL LB-706B Thermo-Barometer, ACS029, Certificate No. 1148624

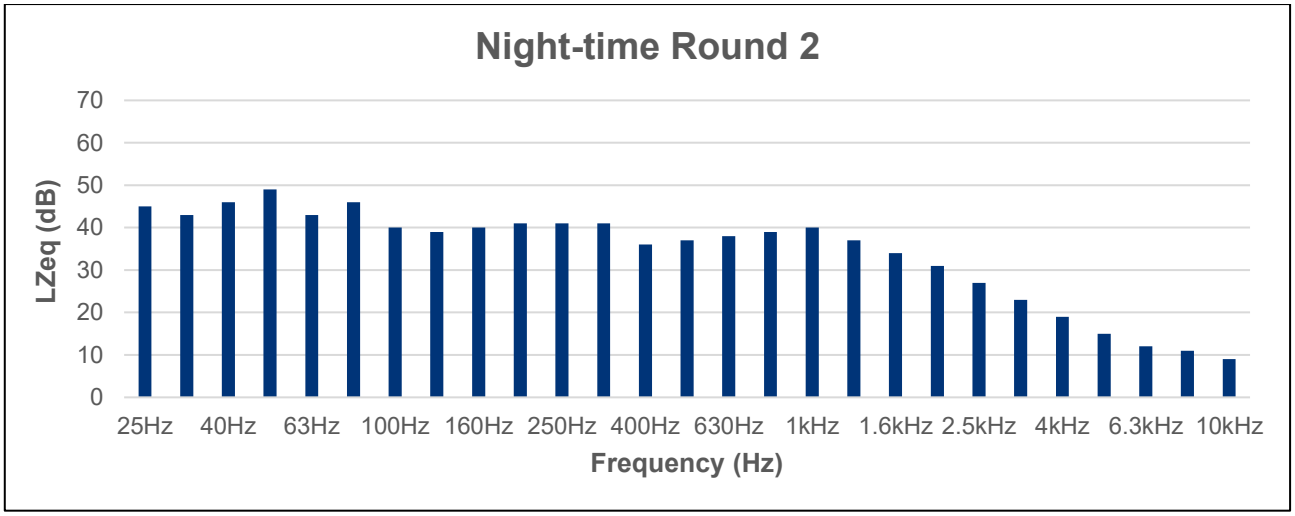
This calibration was performed by AcSoft Ltd, 11 Abbey Court, Fraser Road,
Priory Business Park, Bedford, MK44 3WH
T: 01234 639550 W: www.acsoft.co.uk E: sales@acsoft.co.uk

(AP 17/05/2024 Issue No. 4)

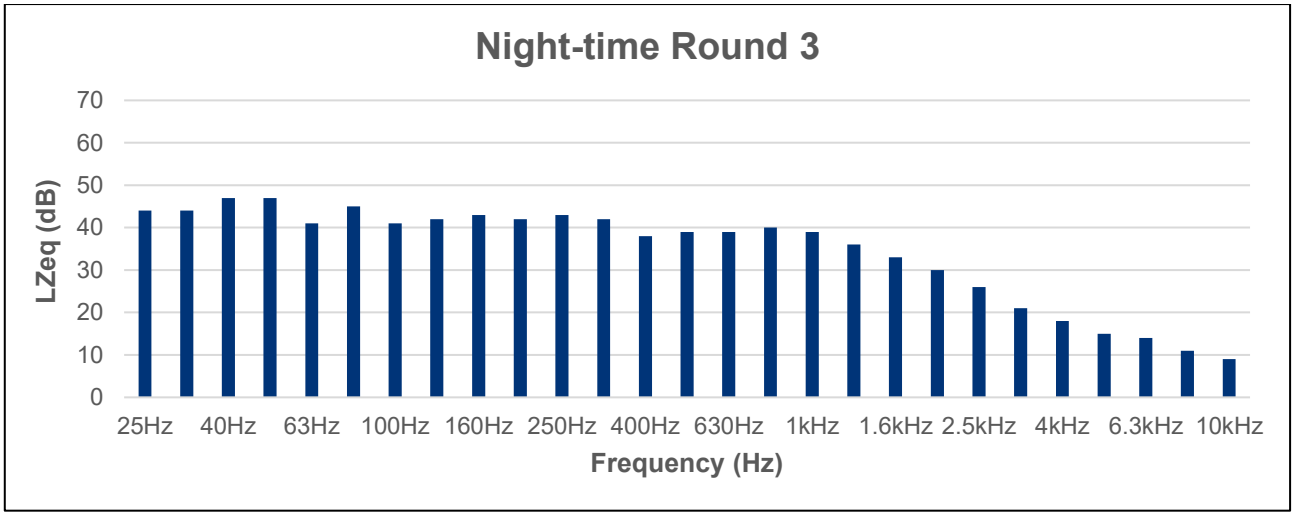
Appendix C BS4142 Annex C Tonal Analysis



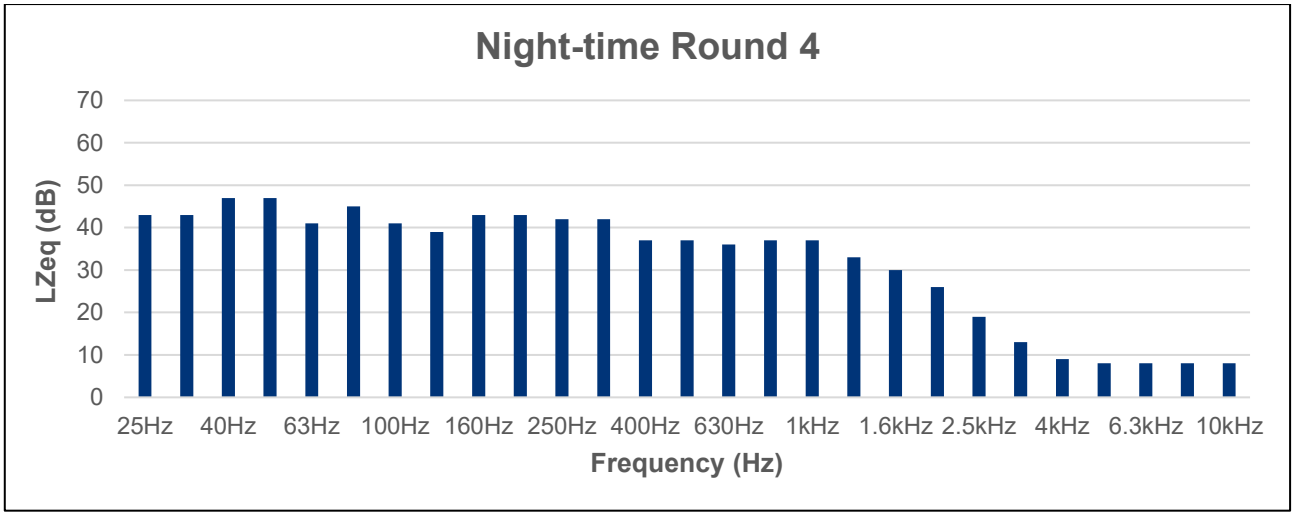
Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	44	3	1	15	No
31.5	43	-1	-4	15	No
40	47	4	-2	15	No
50	49	2	4	15	No
63	45	-4	-2	15	No
80	47	2	5	15	No
100	42	-5	3	15	No
125	39	-3	-2	15	No
160	41	2	-1	8	No
200	42	1	0	8	No
250	42	0	-1	8	No
315	43	1	5	8	No
400	38	-5	-2	8	No
500	40	2	-1	5	No
630	41	1	-2	5	No
800	43	2	-2	5	No
1000	45	2	2	5	No
1250	43	-2	3	5	No
1600	40	-3	2	5	No
2000	38	-2	4	5	No
2500	34	-4	4	5	No
3250	30	-4	5	5	No
4000	25	-5	5	5	No
5000	20	-5	3	5	No
6300	17	-3	3	5	No
8000	14	-3	2	5	No
10000	12	-2	2	5	No



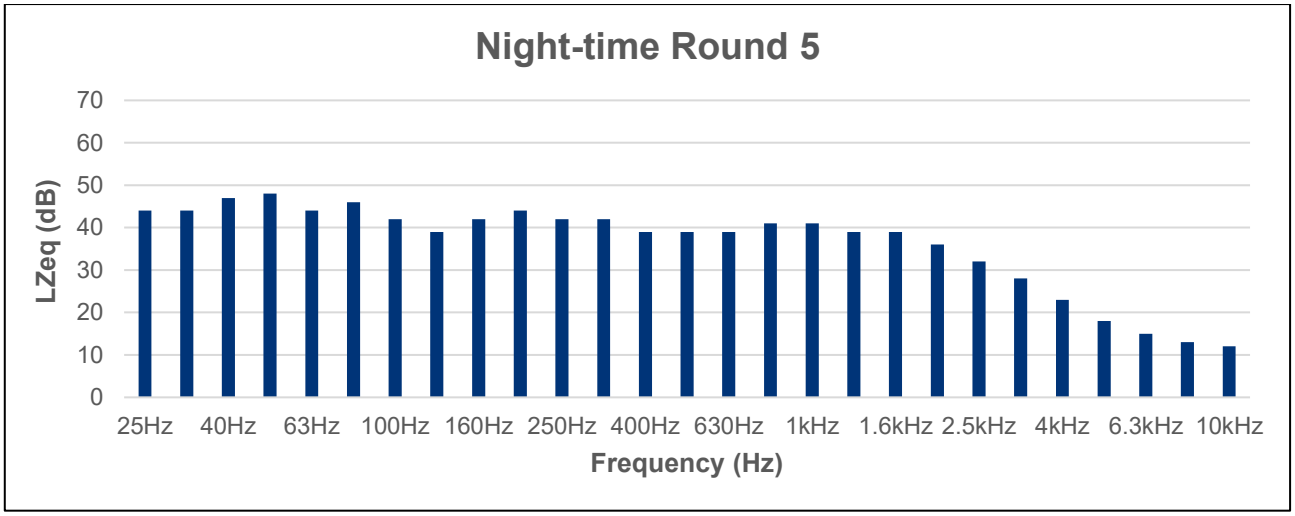
Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	45	2	2	15	No
31.5	43	-2	-3	15	No
40	46	3	-3	15	No
50	49	3	6	15	No
63	43	-6	-3	15	No
80	46	3	6	15	No
100	40	-6	1	15	No
125	39	-1	-1	15	No
160	40	1	-1	8	No
200	41	1	0	8	No
250	41	0	0	8	No
315	41	0	5	8	No
400	36	-5	-1	8	No
500	37	1	-1	5	No
630	38	1	-1	5	No
800	39	1	-1	5	No
1000	40	1	3	5	No
1250	37	-3	3	5	No
1600	34	-3	3	5	No
2000	31	-3	4	5	No
2500	27	-4	4	5	No
3250	23	-4	4	5	No
4000	19	-4	4	5	No
5000	15	-4	3	5	No
6300	12	-3	1	5	No
8000	11	-1	2	5	No
10000	9	-2	1	5	No



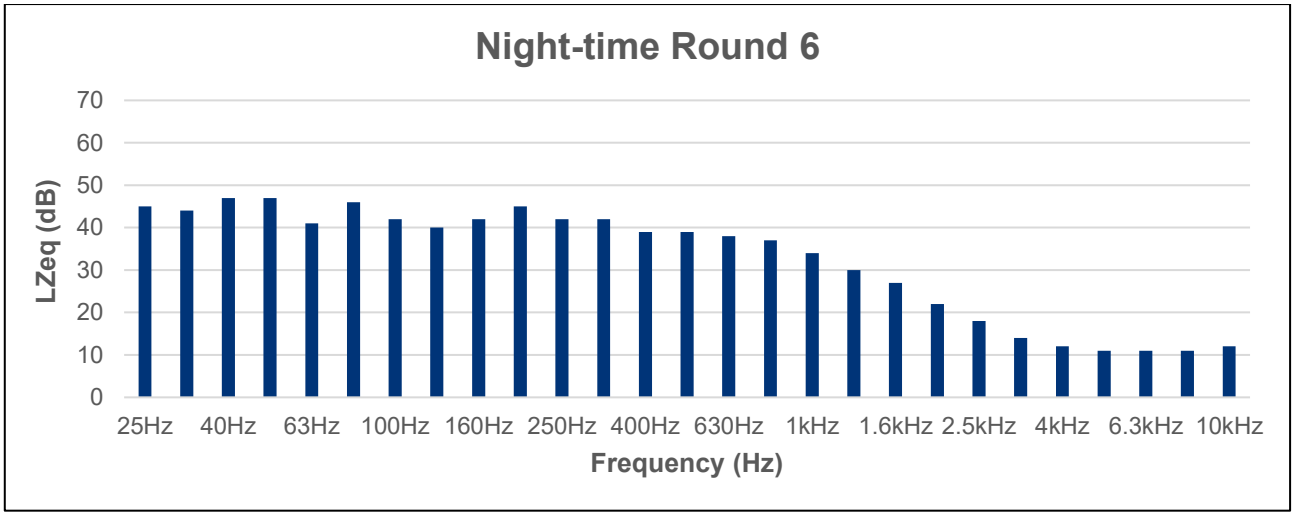
Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	44	1	0	15	No
31.5	44	0	-3	15	No
40	47	3	0	15	No
50	47	0	6	15	No
63	41	-6	-4	15	No
80	45	4	4	15	No
100	41	-4	-1	15	No
125	42	1	-1	15	No
160	43	1	1	8	No
200	42	-1	-1	8	No
250	43	1	1	8	No
315	42	-1	4	8	No
400	38	-4	-1	8	No
500	39	1	0	5	No
630	39	0	-1	5	No
800	40	1	1	5	No
1000	39	-1	3	5	No
1250	36	-3	3	5	No
1600	33	-3	3	5	No
2000	30	-3	4	5	No
2500	26	-4	5	5	No
3250	21	-5	3	5	No
4000	18	-3	3	5	No
5000	15	-3	1	5	No
6300	14	-1	3	5	No
8000	11	-3	2	5	No
10000	9	-2	0	5	No



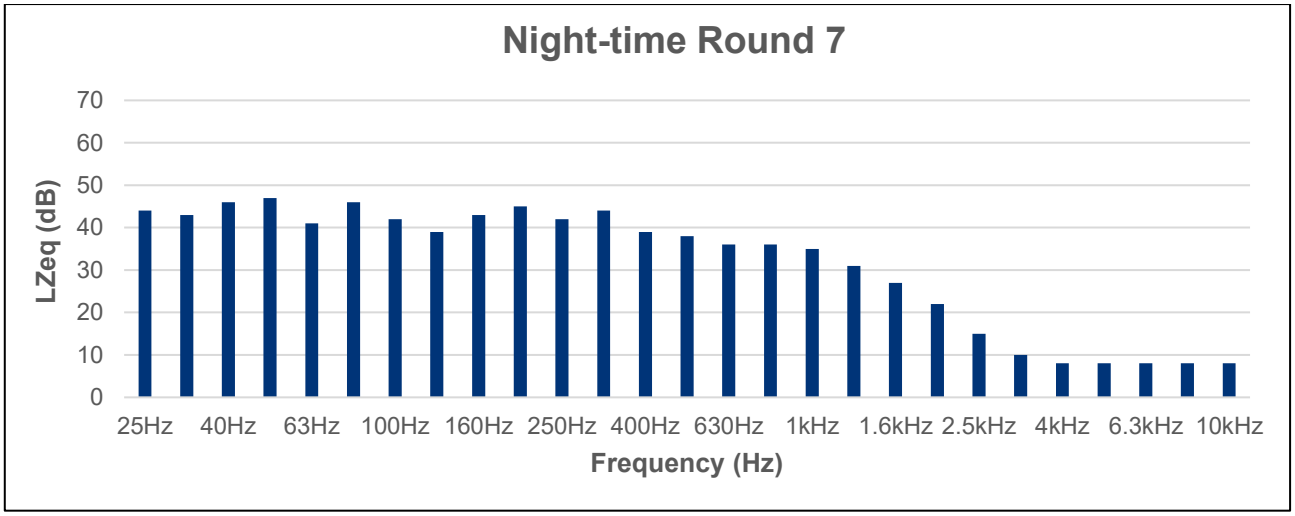
Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	43	0	0	15	**No**
31.5	43	0	-4	15	**No**
40	47	4	0	15	**No**
50	47	0	6	15	**No**
63	41	-6	-4	15	**No**
80	45	4	4	15	**No**
100	41	-4	2	15	**No**
125	39	-2	-4	15	**No**
160	43	4	0	8	**No**
200	43	0	1	8	**No**
250	42	-1	0	8	**No**
315	42	0	5	8	**No**
400	37	-5	0	8	**No**
500	37	0	1	5	**No**
630	36	-1	-1	5	**No**
800	37	1	0	5	**No**
1000	37	0	4	5	**No**
1250	33	-4	3	5	**No**
1600	30	-3	4	5	**No**
2000	26	-4	7	5	**No**
2500	19	-7	6	5	**No**
3250	13	-6	4	5	**No**
4000	9	-4	1	5	**No**
5000	8	-1	0	5	**No**
6300	8	0	0	5	**No**
8000	8	0	0	5	**No**
10000	8	0	0	5	**No**



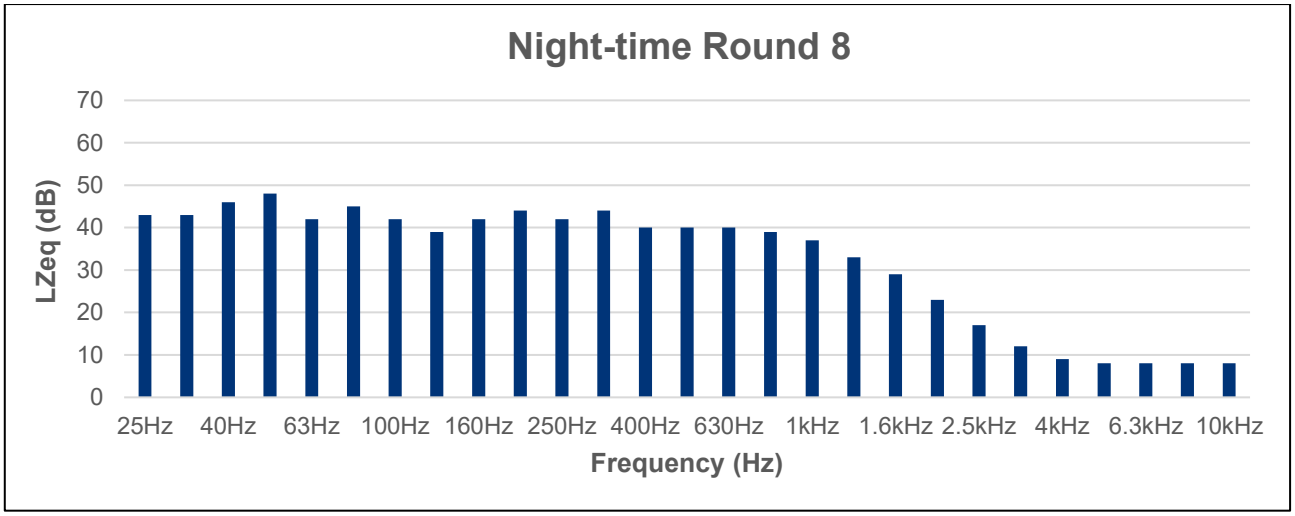
Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	44	0	0	15	No
31.5	44	0	-3	15	No
40	47	3	-1	15	No
50	48	1	4	15	No
63	44	-4	-2	15	No
80	46	2	4	15	No
100	42	-4	3	15	No
125	39	-3	-3	15	No
160	42	3	-2	8	No
200	44	2	2	8	No
250	42	-2	0	8	No
315	42	0	3	8	No
400	39	-3	0	8	No
500	39	0	0	5	No
630	39	0	-2	5	No
800	41	2	0	5	No
1000	41	0	2	5	No
1250	39	-2	0	5	No
1600	39	0	3	5	No
2000	36	-3	4	5	No
2500	32	-4	4	5	No
3250	28	-4	5	5	No
4000	23	-5	5	5	No
5000	18	-5	3	5	No
6300	15	-3	2	5	No
8000	13	-2	1	5	No
10000	12	-1	3	5	No



Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	45	0	1	15	**No**
31.5	44	-1	-3	15	**No**
40	47	3	0	15	**No**
50	47	0	6	15	**No**
63	41	-6	-5	15	**No**
80	46	5	4	15	**No**
100	42	-4	2	15	**No**
125	40	-2	-2	15	**No**
160	42	2	-3	8	**No**
200	45	3	3	8	**No**
250	42	-3	0	8	**No**
315	42	0	3	8	**No**
400	39	-3	0	8	**No**
500	39	0	1	5	**No**
630	38	-1	1	5	**No**
800	37	-1	3	5	**No**
1000	34	-3	4	5	**No**
1250	30	-4	3	5	**No**
1600	27	-3	5	5	**No**
2000	22	-5	4	5	**No**
2500	18	-4	4	5	**No**
3250	14	-4	2	5	**No**
4000	12	-2	1	5	**No**
5000	11	-1	0	5	**No**
6300	11	0	0	5	**No**
8000	11	0	-1	5	**No**
10000	12	1	2	5	**No**



Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	44	1	1	15	**No**
31.5	43	-1	-3	15	**No**
40	46	3	-1	15	**No**
50	47	1	6	15	**No**
63	41	-6	-5	15	**No**
80	46	5	4	15	**No**
100	42	-4	3	15	**No**
125	39	-3	-4	15	**No**
160	43	4	-2	8	**No**
200	45	2	3	8	**No**
250	42	-3	-2	8	**No**
315	44	2	5	8	**No**
400	39	-5	1	8	**No**
500	38	-1	2	5	**No**
630	36	-2	0	5	**No**
800	36	0	1	5	**No**
1000	35	-1	4	5	**No**
1250	31	-4	4	5	**No**
1600	27	-4	5	5	**No**
2000	22	-5	7	5	**No**
2500	15	-7	5	5	**No**
3250	10	-5	2	5	**No**
4000	8	-2	0	5	**No**
5000	8	0	0	5	**No**
6300	8	0	0	5	**No**
8000	8	0	0	5	**No**
10000	8	0	0	5	**No**



Frequency (Hz)	Measured L_{Zeq} (dB)	Difference Between Preceding Bands (dB)	Difference Between Following Bands (dB)	Acceptable Difference (dB)	Tonal
25	43	1	0	15	No
31.5	43	0	-3	15	No
40	46	3	-2	15	No
50	48	2	6	15	No
63	42	-6	-3	15	No
80	45	3	3	15	No
100	42	-3	3	15	No
125	39	-3	-3	15	No
160	42	3	-2	8	No
200	44	2	2	8	No
250	42	-2	-2	8	No
315	44	2	4	8	No
400	40	-4	0	8	No
500	40	0	0	5	No
630	40	0	1	5	No
800	39	-1	2	5	No
1000	37	-2	4	5	No
1250	33	-4	4	5	No
1600	29	-4	6	5	No
2000	23	-6	6	5	No
2500	17	-6	5	5	No
3250	12	-5	3	5	No
4000	9	-3	1	5	No
5000	8	-1	0	5	No
6300	8	0	0	5	No
8000	8	0	0	5	No
10000	8	0	0	5	No

FOLLOW-UP ACTIONS

The licensee is required to complete the actions outlined in this site visit report within the specified timeframes. Where required, the licensee shall also respond to actions specified in Compliance Investigations and/or submit a response to this site visit report via the EDEN system. The licensee shall maintain a documentary evidence, for review by the Agency, that the prescribed actions were completed within the required timeframe.

(i) Compliance Investigations

The Agency may generate a Compliance Investigation through the EDEN system and issue instructions and actions to the licensee. The licensee will receive notification when an instruction or action is issued and the licensee must respond to the actions within the Compliance Investigation within the specified timeframe.

(ii) Response to Site Visit Report

Where the licensee is requested to (or wishes to) respond to the Agency in relation to this site visit report, the licensee may select the 'Make a Response' link on the Site Visits page in EDEN where a .pdf document containing the response can be attached and submitted. The response should include details of the actions taken by the licensee to address the issues raised in this site visit report and the target completion dates. This Licensee Public Response provides the licensee with an opportunity to inform both the Agency and the public about the implementing of actions set out in the Agency site visit report. The response must be submitted **within 21 calendar days** of the issue date of this site visit report.

(iii) Publication of Reports

This site visit report will be published on the EPA's website, www.epa.ie, 30 calendar days after the site visit report issue date.

Any licensee response to this site visit report will be published on the EPA's website simultaneously (i.e. 30 calendar days after the site visit report issue date).

Please note that licensees are required to comply with the conditions of the licence at all times, and where non-compliance occurs, compliance must be restored within the shortest possible time. These actions will be verified during subsequent Agency visits. Please quote the above Inspection Reference Number in any correspondence in relation this Report.