



ANNEX F

NOISE



ANNEX F1

CALIBRATION CERTIFICATES FOR NOISE

Certificate of Calibration

for

Description: *Sound Level Calibrator*

Manufacturer: *Larson Davis*

Type No.: *CAL 200*

Serial No.: *15678*

Submitted by:

Customer: *Envirotech Services Co.*

Address: *Rm.712, 7/F., My Loft, 9 Hoi Wing Road,*

Tuen Mun, Hong Kong

Upon receipt for calibration, the instrument was found to be:

Within

Outside

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 03 January 2025

Date of calibration: 06 January 2025

Date of NEXT calibration: 05 January 2026

Calibrated by: *Ny*
Calibration Technician

Certified by: *Mr. Ng Yan Wa*
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 06 January 2025

Certificate No.: APJ24-124-CC003



Page 1 of 2

1. Calibration Precautions:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Specifications:

Calibration check

3. Calibration Conditions:

Air Temperature: 22.9°C
Air Pressure: 1019 hPa
Relative Humidity: 33.2 %

4. Calibration Equipment:

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV240109	HOKLAS

5. Calibration Results

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.1
114.0	113.6	114.4	114.1

6. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 60942 Class 1.

Note:

The values given in this certification only related to the values measured at the time of the calibration.



Certificate No.: APJ24-124-CC003

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Certificate of Calibration

校正證書

Certificate No. : C242217
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC24-0586)

Date of Receipt / 收件日期 : 5 April 2024

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00331805
Supplied By / 委託者 : Envirotech Services Co.
Room 712, 7/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$
Line Voltage / 電壓 : ---

Relative Humidity / 相對濕度 : $(50 \pm 25)\%$

TEST SPECIFICATIONS / 測試規範

Calibration check

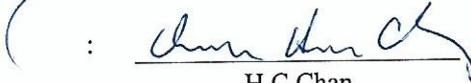
DATE OF TEST / 測試日期 : 19 April 2024

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By : 
測試 : K.C. Lee
Engineer

Certified By : 
核證 : H.C. Chan
Engineer

Date of Issue : 19 April 2024
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Certificate of Calibration

校正證書

Certificate No. : C242217

證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
2. Self-calibration was performed before the test.
3. The results presented are the mean of 3 measurements at each calibration point.
4. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL280	40 MHz Arbitrary Waveform Generator	C240212
CL281	Multifunction Acoustic Calibrator	CDK2302738

5. Test procedure : MA101N.

6. Results :

- 6.1 Sound Pressure Level

- 6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L _A	A	Fast	94.00	1	93.5	± 1.1

- 6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L _A	A	Fast	94.00	1	93.5 (Ref.)
				104.00		103.5
				114.00		113.5

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

- 6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L _A	A	Fast	94.00	1	93.5	Ref.
			Slow			93.5	± 0.3

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Certificate of Calibration

校正證書

Certificate No. : C242217
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L _A	A	Fast	94.00	63 Hz	67.2	-26.2 ± 1.5
					125 Hz	77.2	-16.1 ± 1.5
					250 Hz	84.8	-8.6 ± 1.4
					500 Hz	90.2	-3.2 ± 1.4
					1 kHz	93.5	Ref.
					2 kHz	94.7	+1.2 ± 1.6
					4 kHz	94.5	+1.0 ± 1.6
					8 kHz	92.5	-1.1 (+2.1 ; -3.1)
					16 kHz	85.6	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L _C	C	Fast	94.00	63 Hz	92.5	-0.8 ± 1.5
					125 Hz	93.3	-0.2 ± 1.5
					250 Hz	93.5	0.0 ± 1.4
					500 Hz	93.5	0.0 ± 1.4
					1 kHz	93.5	Ref.
					2 kHz	93.3	-0.2 ± 1.6
					4 kHz	92.7	-0.8 ± 1.6
					8 kHz	90.6	-3.0 (+2.1 ; -3.1)
					16 kHz	83.6	-8.5 (+3.5 ; -17.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室所書面批准。



Certificate of Calibration

校正證書

Certificate No. : C242217
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 06829

- Mfr's Limit : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *RION*
Type No.: *NL-52 (Serial No.: 00542913)*
Microphone: *UC-53A (Serial No.: 99995)*
Preamplifier: *NH-25 (Serial No.:43068)*

Submitted by:

Customer: *Envirotech Services Co.*
Address: *Rm.712, 7/F., My Loft, 9 Hoi Wing Road,
Tuen Mun, Hong Kong*

Upon receipt for calibration, the instrument was found to be:

- Within (31.5Hz – 8kHz)
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

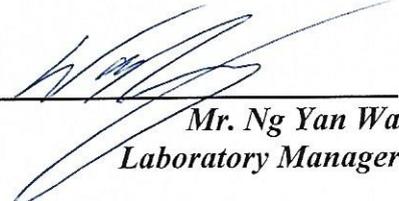
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 August 2024

Date of calibration: 29 August 2024

Date of NEXT calibration: 28 August 2025

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 29 August 2024



Certificate No.: APJ24-058-CC001

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1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 24.6°C
 Air Pressure: 1004 hPa
 Relative Humidity: 53.9%

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dB A SPL	Fast	94	1000	94.0	±0.4	

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dB A SPL	Fast	94	1000	94.0	Ref	
			104		104.0	±0.3	
			114		114.0	±0.3	

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dB A SPL	Fast	94	1000	94.0	Ref	
		Slow			94.0	±0.3	



Certificate No.: APJ24-058-CC001

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dB	SPL	Fast	94	31.5	92.7	±2.0
					63	93.7	±1.5
					125	93.9	±1.5
					250	94.0	±1.4
					500	94.0	±1.4
					1000	94.0	Ref
					2000	93.9	±1.6
					4000	94.3	±1.6
					8000	92.4	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	31.5	53.5	-39.4±2.0
					63	67.5	-26.2±1.5
					125	77.8	-16.1±1.5
					250	85.3	-8.6±1.4
					500	90.8	-3.2±1.4
					1000	94.0	Ref
					2000	95.2	+1.2±1.6
					4000	95.3	+1.0±1.6
					8000	91.3	-1.1±2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBC	SPL	Fast	94	31.5	89.7	-3.0±2.0
					63	92.9	-0.8±1.5
					125	93.8	-0.2±1.5
					250	94.0	-0.0±1.4
					500	94.0	-0.0±1.4
					1000	94.0	Ref
					2000	93.8	-0.2±1.6
					4000	93.5	-0.8±1.6
					8000	89.4	-3.0±2.1; -3.1

Certificate No.: APJ24-058-CC001



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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.10
	125 Hz	± 0.10
	250 Hz	± 0.10
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.10
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.



ANNEX F2

MONITORING SCHEDULE FOR NOISE

Tung Chung New Town Extension (East) Noise Monitoring Schedule (April 2025)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Apr	2-Apr	3-Apr	4-Apr	5-Apr
			Noise Monitoring			
6-Apr	7-Apr	8-Apr	9-Apr	10-Apr	11-Apr	12-Apr
		Noise Monitoring				
13-Apr	14-Apr	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr
	Noise Monitoring			Noise Monitoring		
20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr
			Noise Monitoring			
27-Apr	28-Apr	29-Apr	30-Apr			
		Noise Monitoring				



ANNEX F3

MONITORING RESULTS FOR NOISE

Table F3.1 Data for Noise Monitoring at Station NMS-CA-1A during Normal Working Hours (0700-1900 hours)

Date & Time	L _{eq} (5min)	L ₁₀	L ₉₀	L _{eq} (30min)
4/2/2025 9:08	67.7	68.3	59.3	66.6
4/2/2025 9:13	67.1	70.4	59.7	
4/2/2025 9:18	65.1	67.8	58.8	
4/2/2025 9:23	65.7	68.1	58.0	
4/2/2025 9:28	66.6	68.2	57.6	
4/2/2025 9:33	66.8	70.7	59.5	65.7
4/8/2025 15:07	66.9	70.6	59.1	
4/8/2025 15:12	63.7	66.3	59.3	
4/8/2025 15:17	65.4	67.9	59.0	
4/8/2025 15:22	67.1	68.9	60.9	
4/8/2025 15:27	65.9	69.0	60.1	67.6
4/8/2025 15:32	64.0	66.5	57.9	
4/14/2025 10:01	68.5	71.7	62.4	
4/14/2025 10:06	68.0	70.6	63.1	
4/14/2025 10:11	69.6	72.3	62.7	
4/14/2025 10:16	66.5	68.0	61.6	64.3
4/14/2025 10:21	66.2	68.6	60.5	
4/14/2025 10:26	65.3	67.4	62.1	
4/17/2025 15:14	64.1	65.8	58.1	
4/17/2025 15:19	65.5	68.8	59.8	
4/17/2025 15:24	62.6	65.8	57.3	64.3
4/17/2025 15:29	65.9	68.4	57.4	
4/17/2025 15:34	63.6	66.7	58.0	
4/17/2025 15:39	63.0	65.7	58.6	
4/23/2025 9:11	64.8	66.6	59.5	
4/23/2025 9:16	64.4	66.9	58.9	
4/23/2025 9:21	64.3	66.0	58.8	
4/23/2025 9:26	64.3	66.8	60.6	
4/23/2025 9:31	63.6	65.4	59.2	
4/23/2025 9:36	64.1	66.7	59.3	67.5
4/29/2025 15:12	64.9	67.3	60.8	
4/29/2025 15:17	67.3	70.8	60.8	
4/29/2025 15:22	68.8	72.5	61.8	
4/29/2025 15:27	67.5	70.1	61.1	
4/29/2025 15:32	67.2	70.0	61.1	62.5
4/29/2025 15:37	68.5	70.5	62.5	

Figure F3.1 Graphical Presentation for Noise Monitoring at Station NMS-CA-1A

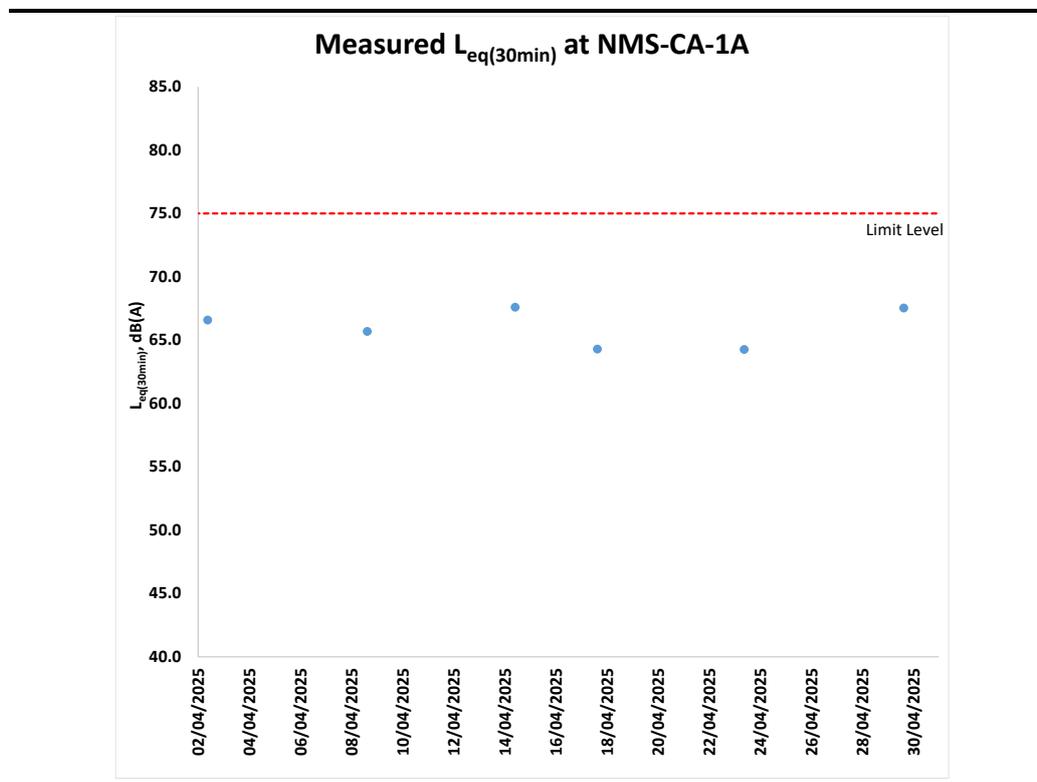
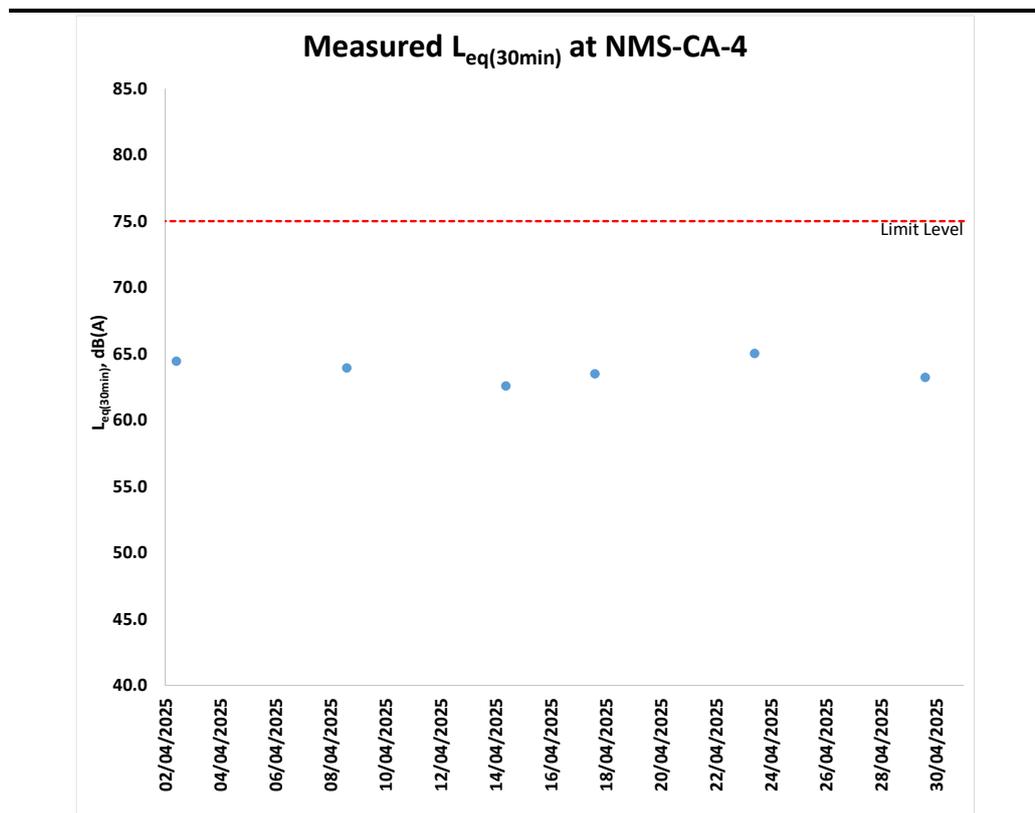


Table F3.2 Data for Noise Monitoring at Station NMS-CA-4 during Normal Working Hours (0700-1900 hours)

Date & Time	L _{eq} (5min)	L ₁₀	L ₉₀	L _{eq} (30min)
4/2/2025 9:47	63.5	65.0	61.7	64.4
4/2/2025 9:52	64.7	66.8	61.5	
4/2/2025 9:57	65.1	66.6	62.3	
4/2/2025 10:02	63.5	65.3	61.9	
4/2/2025 10:07	65.6	68.1	61.9	
4/2/2025 10:12	63.8	65.4	61.1	
4/8/2025 14:21	63.3	64.7	61.7	63.9
4/8/2025 14:26	64.2	64.3	61.5	
4/8/2025 14:31	63.0	64.5	61.0	
4/8/2025 14:36	64.7	65.7	61.4	
4/8/2025 14:41	63.4	64.4	62.1	
4/8/2025 14:46	64.7	65.8	62.3	
4/14/2025 9:02	61.6	63.3	59.2	62.6
4/14/2025 9:07	61.6	63.3	59.0	
4/14/2025 9:12	61.2	67.0	58.7	
4/14/2025 9:17	62.7	64.9	59.9	
4/14/2025 9:22	62.6	64.6	60.1	
4/14/2025 9:27	64.7	67.4	60.1	
4/17/2025 14:38	62.4	63.9	59.8	63.5
4/17/2025 14:43	66.7	67.5	60.5	
4/17/2025 14:48	62.4	63.9	60.4	
4/17/2025 14:53	62.3	63.8	60.2	
4/17/2025 14:58	63.2	63.4	59.7	
4/17/2025 15:03	61.7	63.1	60.3	
4/23/2025 9:53	65.1	66.8	62.3	65.0
4/23/2025 9:58	65.9	67.5	62.2	
4/23/2025 10:03	66.7	68.6	63.1	
4/23/2025 10:08	64.9	66.3	60.5	
4/23/2025 10:13	63.8	66.0	60.1	
4/23/2025 10:18	62.5	64.3	60.4	
4/29/2025 14:36	63.2	64.5	61.6	63.2
4/29/2025 14:41	63.6	65.4	61.4	
4/29/2025 14:46	64.2	65.8	61.9	
4/29/2025 14:51	62.9	64.6	60.9	
4/29/2025 14:56	62.5	64.0	60.2	
4/29/2025 15:01	62.7	64.4	60.4	

Figure F3.2 Graphical Presentation for Noise Monitoring at Station NMS-CA-4





ANNEX F4

EVENT AND ACTION PLAN FOR NOISE

Annex F4 *Event and Action Plan for Construction Noise*

Event	Action			
	ET	IEC	ER	Contractor
Action Level Exceedance	<ol style="list-style-type: none"> 1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level Exceedance	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.