

Our Ref: 21963_R03_BPS_Q22022_MonReport.docx

28 July 2022

Ben Crawford
Independent Cement & Lime Group
750 Lorimer St, Port Melbourne Victoria 3207

E | bcrawford@indcem.com.au

Dear Ben

**Re: Quarterly Environmental Noise Monitoring – Building Product Services,
Quarter 2 2022**

Umwelt has completed Quarter 2 2022 Environmental Attended Noise Monitoring for Building Product Services (BPS), Kembla Grange to satisfy BPS's Environment Protection Licence (EPL) 20747 requirements.

This report presents the results of noise monitoring carried out on 27 and 28 June 2022. The purpose of attended noise surveys is to quantify and describe the ambient noise environment in the region surrounding BPS and to estimate the BPS contribution to the ambient noise levels. Meteorological conditions present at the time of monitoring and the measured BPS noise levels are compared to criteria outlined in EPL20747.

Noise monitoring methodology

The compliance assessment methodology includes the following activities:

- Attended noise monitoring measurements, of fifteen-minute duration, at monitoring locations to measure the ambient noise levels in the surrounding region and to assess the BPS contribution (reported as an LAeq, 15 minute measurement) to the measured noise levels.
- Comparison of the BPS LAeq, 15 minute contribution with the relevant EPL LAeq, 15 minute noise criteria to assess compliance of BPS operations.
- Comparison of the BPS LAF,Max night-time attended noise monitoring results with the night-time LAF,Max criteria outlined in the EPL.

Attended noise monitoring for BPS was conducted in accordance with the NSW Environment Protection Authority (EPA) *Noise Policy for Industry* (NPfI, 2017), *Approved methods for the measurement and analysis of environmental noise in NSW* (EPA, 2022) and the Australian Standard AS1055:2018, *Acoustics – Description and Measurement of Environmental Noise*.

Newcastle | Orange |
Sydney | Canberra |
Brisbane | Perth |
Melbourne

T | 1300 793 267
E | info@umwelt.com.au

www.umwelt.com.au

Umwelt (Australia) Pty Limited
ABN 18 059 519 041

During the attended monitoring sessions, noise measurements were taken with a SVAN 958A Precision Integrating Sound Level Meter (Serial Number 59838) which was calibrated on-site using a Type SV-36, Svantek Sound Level Calibrators (Serial Number 90124). The noise meter was run using three measurement profiles, Z Weighting (linear), C Weighting and A Weighting and records A-weighted 1/3 octave noise levels at 10th of a second intervals over a 15-minute measurement period.

During the attended monitoring sessions the operator maintained a log of noise-related events that occurred and contributed to the ambient noise environment. Particular attention and note was made for contributions associated with BPS operations.

Attended noise monitoring data and results recorded include:

- the LAeq,15minute, LA10,15minute and LA90,15minute noise levels of the ambient acoustic environment for each 15-minute measurement period
- the recorded A-weighted 1/3 octave noise levels at 10th of a second intervals over each 15-minute measurement period
- the results of a 1000 Hz low pass filter at 10th of a second intervals over each 15-minute measurement period
- an assessment of the maximum LAFmax noise level recorded over each 15-minute measurement period
- operator comments regarding any extraneous noise sources contributing to the ambient noise levels.

The October 2021 version of EPL20747 identifies three noise monitoring locations, which are shown in **Figure 1**. EPL20747 calls for monitoring to be carried out during the day, evening and night period as defined in the Noise Policy for Industry for a minimum of two (2) of the residential locations and one (1) near-field location.

The noise criteria specified in EPL20747 for three residential locations, NML1, NML2 and NML3 are described in **Table 1**.

Table 1 – Noise Criteria, dBA

Time of day		Parameter	Noise Level
Day	7 am-6 pm Monday -Saturday 8 am-6 pm Sunday & Public Holidays)	LAeq(15minute)	46
Evening	6 pm – 10 pm	LAeq(15minute)	43
Night	10 pm to commencement of day period	LAeq(15minute)	40
		LAFmax	52

Source: EPL20747



Figure 1 Location figure showing the BPS site and noise monitoring locations

The noise criteria in **Table 1** apply under the following meteorological conditions:

- Day – Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level.
- Evening – Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level.
- Night – Stability categories A, B, C, D with wind speeds up to and including 3 m/s at 10 m above ground level; or
- Stability Category E and F with wind speeds up to and including 2 m/s at 10 m above ground level.

For those meteorological conditions not referred to above the noise limits include a plus 5dB allowance.

Identification of suitable meteorological conditions

Umwelt aims to conduct compliance monitoring during meteorological conditions where criteria will apply. Publicly available weather forecasts, such as Weatherzone and the Bureau of Meteorology's (BOM's) synoptic charts and Meteye forecasts are reviewed and periods of low wind speeds and no rain are selected for monitoring. It is noted that inversion conditions can occur during periods of low wind speeds. Therefore, preferentially targeting calm periods may inadvertently result in the monitoring being undertaken during inversion conditions. During strong inversion conditions, the noise criteria includes a 5 dB allowance and the value of the noise monitoring process is potentially diminished. The 5 dB allowance also applies to periods when the wind speed exceeds those nominated above (as per EPL20747).

Additionally, local radars may be checked immediately prior to monitoring to confirm the absence of rain or storms during summer months. Based on the prevailing meteorological conditions over 27 and 28 June 2022 the monitoring was conducted at NM1 and NM2 as well as an additional near-field location on Sylvester Avenue, Unanderra.

Meteorological conditions during monitoring were determined from meteorological data obtained from the EPA Kembla Grange Air Quality Monitoring Station (Station ID 526). Averaged data was available in one hour intervals. Stability categories present during monitoring were determined using the method from Fact Sheet D of the NPfI using the sigma theta data to estimate the Pasquill-Gifford stability category, as outlined in Section D1 of the NPfI, as specified in EPL20747.

The Quarter 2 2022 attended noise monitoring results in **Table 2** and **Table 3** for NML1 and NML2 respectively include:

- the noise criteria for each monitoring location (for the period when the measurement was taken)
- the estimated noise contribution from BPS
- whether the meteorological conditions include a plus 5dB allowance
- whether BPS is complying with the noise criteria at the time of monitoring.

Further details on the operator comments regarding any extraneous noise sources contributing to the ambient noise levels during the evening and nighttime monitoring period can be found in **Appendix A** for NML1 and in **Appendix B** for NML2 as notated run charts.

The meteorological conditions present during each measurement interval are presented in **Table 4**.

Calibration certificates for the sound and vibration analyser and sound level calibrator used are provided in **Appendix C**.

Table 2 Quarter 2 2022 Attended Noise Monitoring Results – NML1 Orana Parade

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	27/06/2022 16:14	48	53	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Princes Highway. Other contributing sources included birds, wind in foliage, local traffic, distant road traffic noise from the Princes Motorway and aircraft noise.
Day	27/06/2022 16:29	48	56	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included a lawn mower, local traffic, distant road traffic noise from the Motorway, wind in foliage and other industrial noise.
Day	27/06/2022 16:44	47	49	46	<40	-	-	+ 5 dB	Yes	BPS was audible briefly as front end loader bucket noise. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included a local reversing beeper, birds, wind in foliage, other industrial noise, local traffic, distant road traffic noise from the Motorway and residential noise.
Day	27/06/2022 16:59	48	51	46	<40	-	-	+ 5 dB	Yes	BPS was audible briefly as front end loader bucket noise. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included birds, local traffic, distant road traffic noise from the Motorway, wind in foliage, residential noise and aircraft noise.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	27/06/2022 17:14	48	55	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included other industrial noise, a local reversing beeper, local traffic, distant road traffic noise from the Motorway, wind in foliage and train noise.
Day	27/06/2022 17:29	46	56	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment was dominated by road traffic noise from the Highway. Other contributing sources included aircraft noise, birds, train noise, dogs, local traffic and distant road traffic noise from the Motorway.
Evening	27/06/2022 19:48	49	54	43	<43	-	-	+ 5 dB	Yes	The BPS dust collector fan discharge was audible at 380Hz, with the sound pressure level fluctuating due to the variability of the wind speed and direction. The noise level from the dust collector fan discharge fluctuated from 40 to 44 dBA. The estimated 15-minute LAeq contribution from BPS was less than 43 dBA. A more precise estimate is not possible due to the masking effect of the highway traffic. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, local traffic, distant road traffic noise from the Motorway and wind noise in foliage. Aircraft noise was also noted during this measurement.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Evening	27/06/2022 20:19	49	54	43	<43	-	-	+ 5 dB	Yes	<p>The BPS dust collector fan discharge was audible at 380Hz, with the sound pressure level fluctuating due to the variability of the wind speed and direction. The noise level from the dust collector fan discharge was 40 to 44 dBA. The estimated 15-minute LAeq contribution from BPS was less than 43 dBA. A more precise estimate is not possible due to the masking effect of the highway traffic.</p> <p>BPS front end loader bucket noise was also noted briefly during the measurement.</p> <p>The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic and wind noise in foliage. Other sources noted during the measurement included train and aircraft noise.</p>
Night	28/06/2022 6:12	53	57	40	<40	52	<40 No specific event noise noted	+ 5 dB	Yes	<p>BPS was mostly inaudible except for occasions when the dust collector fan discharge was audible in the background.</p> <p>The ambient noise environment at the monitoring location was dominated by road traffic noise from the highway, the distant Motorway and local traffic. Other sources noted during the measurement included train noise, other industrial noise and wind in foliage.</p>

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3A} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Night	28/06/2022 6:27	55	59	40	<40	52	<40 No specific event noise noted	+ 5 dB	yes	BPS was mostly inaudible except for occasions when the dust collector fan discharge was audible in the background. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic. Other sources noted during the measurement included other industrial noise, birds, wind in foliage and train noise.
Night	28/06/2022 6:42	56	60	40	<40	52	<40 No specific event noise noted	+ 5 dB	Yes	BPS was mostly inaudible except for occasions when the dust collector fan discharge was audible in the background. A cement truck unloading was visible at BPS during the measurement, however, this activity was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic. Other sources noted during the measurement included train noise and birds.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Night	28/06/2022 6:57	55	59	40	<40	52	64 (Raw delivery truck tail gate slam)	+ 5 dB	No (LAMax)	<p>BPS was mostly inaudible except for occasions when the dust collector fan discharge or front end loader were audible in the background.</p> <p>A raw material delivery truck was visible at BPS during the measurement and was audible as air brakes and a tail gate slam.</p> <p>The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway, the distant Motorway and local traffic. Other sources noted during the measurement included train noise, residential noise and other industrial noise.</p>

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.
2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).
3. See **Table 4** for specific meteorological data during the monitoring period.
4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.

Table 3 Quarter 2 2022 Attended Noise Monitoring Results – NML2 Farmborough Road

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq, 15min	BPS LAeq, 15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	27/06/2022 13:35	52	55	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included wind in foliage and aircraft noise.
Day	27/06/2022 13:50	51	53	46	<40	-	-	+ 5 dB	Yes	BPS was not audible for most of the measurement, but was noted on one occasion as raw material delivery truck tail gate slam. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included wind in foliage, other industrial noise (excavator next to BPS) and train noise.
Day	27/06/2022 14:05	51	53	46	<40	-	-	+ 5 dB	Yes	BPS was audible briefly on two occasions as front end loader bucket noise striking the concrete pad when loading the bucket. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included other industrial noise and wind in foliage.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq, 15min	BPS LAeq, 15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Day	27/06/2022 14:20	51	53	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included birds, wind in foliage, train noise, other industrial noise and aircraft noise.
Day	27/06/2022 14:35	51	54	46	Not audible	-	-	+ 5 dB	Yes	BPS was not audible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included birds, wind in foliage, train noise, other industrial noise and aircraft noise.
Day	27/06/2022 14:50	51	53	46	<40	-	-	+ 5 dB	Yes	BPS was audible briefly on one occasion as front end loader bucket noise striking the concrete pad when loading the bucket. The front end loader was observed to be operating at other times, but was inaudible. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway. Other contributing sources included other industrial noise, aircraft noise, wind in foliage and birds.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq, 15min	BPS LAeq, 15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Evening	27/06/2022 20:46	44	52	43	<40	-	-	+ 5 dB	Yes	The BPS dust collector fan discharge was audible at 380Hz, with the sound pressure level fluctuating due to the variability of the wind speed and direction. The estimated 15-minute LAeq contribution from the dust collector fan discharge was 32 to 35 dBA. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway and local traffic and some wind and aircraft noise.
Evening	27/06/2022 21:11	45	54	43	<40	-	-	+ 5 dB	Yes	The BPS dust collector fan discharge was audible at 380Hz, with the sound pressure level fluctuating due to the variability of the wind speed and direction. The estimated 15-minute LAeq contribution from the dust collector fan discharge 34 to 37 dBA. The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway and the distant Motorway and local traffic and some wind noise
Night	28/06/2022 5:00	45	51	40	<40	52	50 from FEL bucket	+ 5 dB	Yes	BPS was audible at times in the background as dust collector fan noise and twice as front end loader bucket noise. The acoustic environment also included road traffic noise from the Highway and distant Motorway and local traffic and train noise.

Period	Start Date and Time of 15 min period	Ambient Noise Levels		Estimated ¹ BPS Contribution and Criteria, dB(A)						Comments
		LA90, 15min	LAeq, 15min	EPL criteria LAeq, 15min	BPS LAeq, 15min ¹	EPL criteria LAFmax	BPS LAFmax ¹	Met ^{2,3,4} Allowance (0dB/+5dB)	BPS Complies (Yes/No)	
Night	28/06/2022 5:17	46	53	40	<40	52	<50 from FEL bucket	+ 5 dB	Yes	BPS was audible once during the measurement as front end loader bucket noise. The acoustic environment also included road traffic noise from the Highway and the distant Motorway and local traffic.
Night	28/06/2022 5:32	48	54	40	Not audible	52	Not audible	+ 5 dB	Yes	BPS was inaudible. The acoustic environment also included road traffic noise from the Highway and the distant Motorway and local traffic, train noise, wind in foliage and birds.
Night	28/06/2022 5:47	49	55	40	<40	52	<40 Dust collector fan (low)	+ 5 dB	Yes	BPS was audible briefly as dust collector fan noise in the background of the measurement. The acoustic environment also included road traffic noise from the Highway and the distant Motorway and local traffic and wind in foliage.

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.
2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).
3. See **Table 4** for specific meteorological data during the monitoring period.
4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.

Table 4 Meteorological Conditions During Attended Monitoring

EPL Id	Start Date and Time of 15 min period	Meteorological Assessment during Monitoring Period ^{1,2}				Includes Meteorological Allowance ⁴ , (0dB/+5dB)
		Rain (mm)	Avg. Wind Speed @ Mic. ³ (m/s)	Avg. Wind Speed @ 10m (m/s)	Atmospheric Stability Category (ASC)	
NML1	27/06/2022 16:14	0	< 5	5.6	C	+ 5 dB
NML1	27/06/2022 16:29	0	< 5	5.6	C	+ 5 dB
NML1	27/06/2022 16:44	0	< 5	5.6	C	+ 5 dB
NML1	27/06/2022 16:59	0	< 5	5.6	C	+ 5 dB
NML1	27/06/2022 17:14	0	< 5	4.0	B	+ 5 dB
NML1	27/06/2022 17:29	0	< 5	4.0	B	+ 5 dB
NML1	27/06/2022 19:48	0	< 5	2.6	F	+ 5 dB
NML1	27/06/2022 20:19	0	< 5	3.0	E	+ 5 dB
NML1	28/06/2022 6:12	0	< 5	2.6	F	+ 5 dB
NML1	28/06/2022 6:27	0	< 5	2.6	F	+ 5 dB
NML1	28/06/2022 6:42	0	< 5	2.6	F	+ 5 dB
NML1	28/06/2022 6:57	0	< 5	2.6	F	+ 5 dB
NML2	27/06/2022 13:35	0	< 5	5.7	C	+ 5 dB
NML2	27/06/2022 13:50	0	< 5	5.7	C	+ 5 dB
NML2	27/06/2022 14:05	0	< 5	5.7	C	+ 5 dB
NML2	27/06/2022 14:20	0	< 5	5.7	C	+ 5 dB
NML2	27/06/2022 14:35	0	< 5	5.7	C	+ 5 dB
NML2	27/06/2022 14:50	0	< 5	5.7	C	+ 5 dB
NML2	27/06/2022 20:46	0	< 5	3.0	E	+ 5 dB
NML2	27/06/2022 21:11	0	< 5	3.5	E	+ 5 dB
NML2	28/06/2022 5:00	0	< 5	3.7	E	+ 5 dB
NML2	28/06/2022 5:17	0	< 5	2.8	E	+ 5 dB
NML2	28/06/2022 5:32	0	< 5	2.8	E	+ 5 dB
NML2	28/06/2022 5:47	0	< 5	2.8	E	+ 5 dB

Notes:

1. Assessed by the operator during the monitoring session. Exceedances of EPL limits are shown in bold.
2. Meteorological conditions under which the noise criteria apply are defined in EPL20747 condition L2.3(a).
3. Wind speed at microphone height was determined by the operator.
4. For those meteorological conditions not referred to in EPL20747 condition L2.3(a), the noise limits that apply are the noise limits in condition L2.1 plus 5dB.

Near-field Monitoring

It was noted during the evening attended monitoring at NML1 and NML2 that the BPS dust collector fan was audible in the background during lulls in the road traffic noise from the Princes Highway. To further investigate the contribution of the dust collector fan to the acoustic environment at the monitoring locations, near-field monitoring was undertaken to the north of BPS, at Sylvester Avenue following the completion of the evening compliance noise measurements at NML1 and NML2.

Figure 2 shows the one-third octave noise levels of the acoustic environment at Sylvester Avenue which includes BPS dust collector fan, low-level dust collector pulse noise as well as front end loader engine and bucket noise. Road traffic noise also contributed to the ambient acoustic environment.

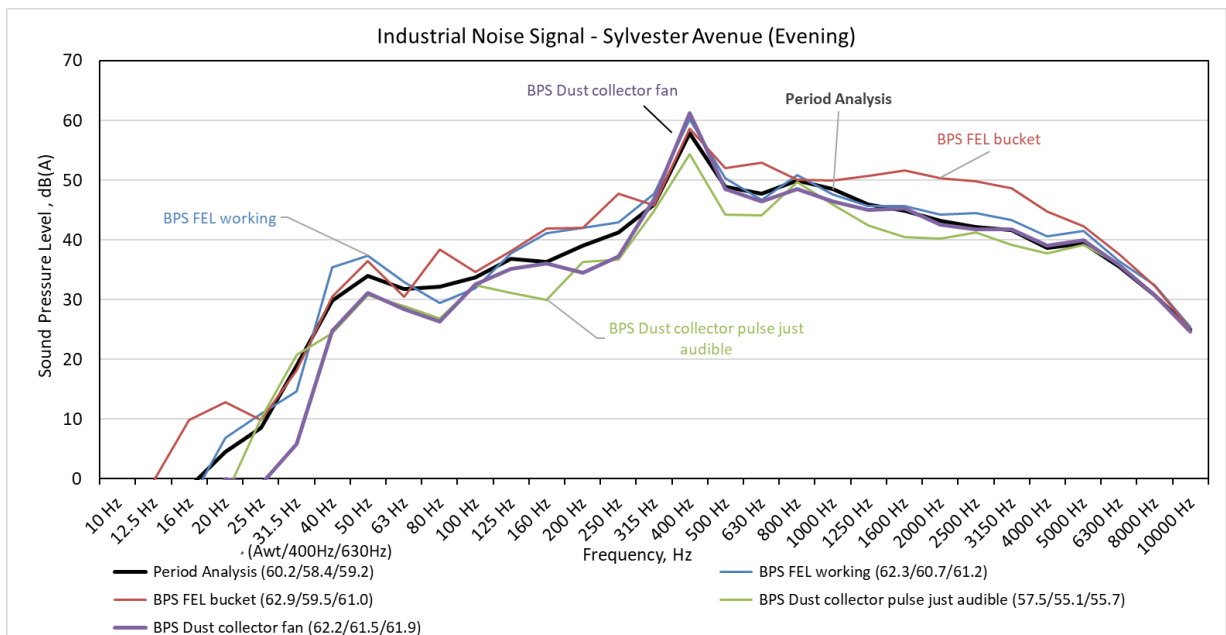


Figure 2 – One-third octave noise levels monitored at a near-field location in Sylvester Avenue

Figure 3 shows an estimate of the contribution of the BPS drying plant the one-third octave noise levels at NML1 (Orana Parade) during lulls in road traffic noise

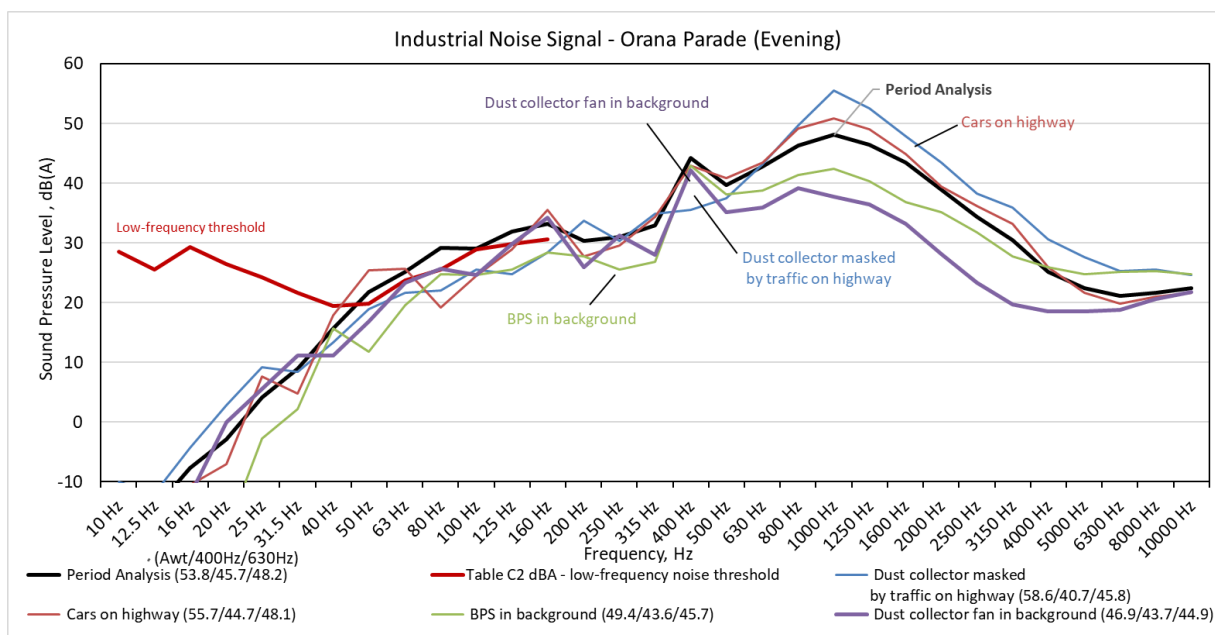


Figure 3 - One-third octave noise levels at NML1 during the evening period

The results in **Figure 3** show an estimate of the BPS dust collector fan's contribution to the acoustic environment at NML1. The difference in the measured source C- to A-weighted sound pressure levels of the acoustic environment is less than 10 dB and the BPS dust collector fan does not trigger the one-third octave low-frequency noise thresholds in Table C2 of Fact Sheet C in the NPfI.

The BPS dust collector fan does not attract a modifying penalty but it does, in its current condition, contribution to the acoustic environment at NML1 (Orana Parade).

Analysis of NML2 data (**Figure 4**) shows that the BPS dust collector fan, while audible at Farmborough Road, was not as dominant or noticeable in the noise environment as it was at NML1.

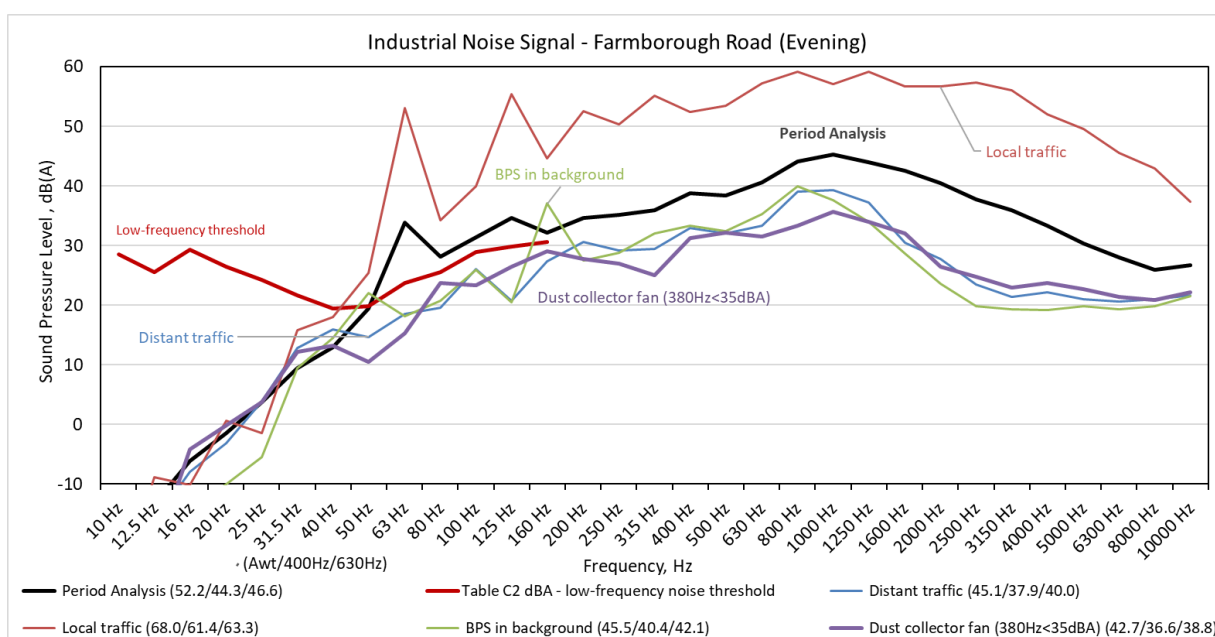


Figure 4 - One-third octave noise levels at NML2 during the evening period

Statement of Compliance

The results of the Quarter 2 2022 noise monitoring program have been assessed against the EPL20747 noise criteria and the meteorological conditions identified in the license for BPS.

The Quarter 2 2022 attended noise monitoring results show that BPS was compliant with the BPS EPL20747 noise criteria for $L_{Aeq,15\text{minute}}$. It is noted that due to the nature of the meteorological conditions a plus 5 dB allowance is applied to the $L_{Aeq,15\text{minute}}$ noise criteria. Notwithstanding this, BPS was compliant with the BPS EPL20747 noise criteria without the plus 5 dB allowance.

The $L_{A\text{Max}}$ noise levels for all measurements with the exception of the BPS $L_{A\text{Max}}$ result at the two minutes before the completion of the night period measurement at NML1, Orana Parade. During the NML1 night period measurement commencing at 6:57am on 28 June 2022, a tail gate slam from a raw delivery product truck at BPS generated an $L_{A\text{Max}}$ of 64 dB(A), exceeding the limit of 56 dB(A) (includes a + 5 dB met allowance).

Recommendations

The attended noise monitoring identified two aspects of the BPS operation that warrant further attention. They are as follows:

1. Additional maintenance is required for the dust collector fan exhaust ductwork. While improvements to the dust collector fan have been made since the last round of compliance noise monitoring, further improvements are necessary to reduce noise impacts off-site. It is recommended the fan discharge is disassembled and the internal sound suppression lining cleaned to remove the impregnated dust. This will improve the sound suppression performance of the exhaust ductwork.

Options should also be investigated to modify the dust collector fan exhaust ductwork to discharge above the level of the roof line with the discharge facing south.

2. A raw material delivery truck tailgate slamming closed generated an exceedance of $L_{A\text{Max}}$ limits at NML2. Noise monitoring results at both NML1 and NML2 during Q2, 2022 demonstrated that tailgate slams have the potential to generate $L_{A\text{Max}}$ levels in excess of night period $L_{A\text{Max}}$ noise limits at both locations.

It is recommended that raw product delivery drivers be reminded to slow the rate of descent of the trailer body and not move from the raw product bays after unloading their deliveries until the tailgate is closed. This should minimise the tailgate swinging as the truck moves and then slamming shut resulting in noise impacts off-site.

Observations

The following observation was made during the attended noise monitoring:

1. The installation of the sound barrier adjacent to the dust collector fan has reduced the fan noise by approximately 6 dB(A)
2. Maintenance of the drying plant heat shields has eliminated this as an off-site noise source.

We trust this information meets with your current requirements. Please do not hesitate to contact the undersigned on 1300 793 267 should you require clarification or further details of the noise monitoring parameters recorded during this monitoring round.

Yours sincerely

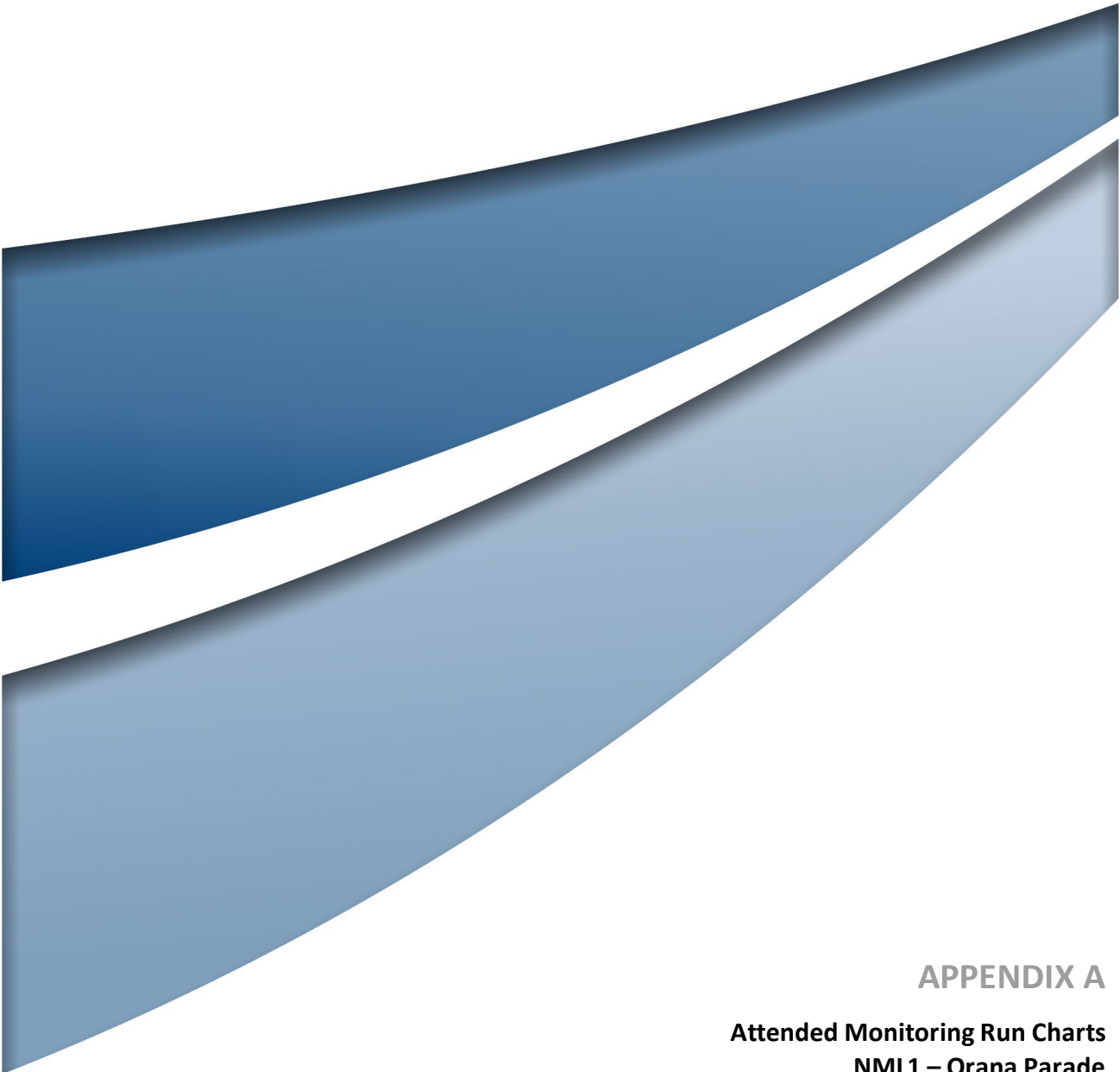
A handwritten signature in black ink, appearing to read 'Tim Procter', is positioned above the printed name.

Tim Procter

Practice Lead – Acoustic Environment

E | tprocter@umwelt.com.au

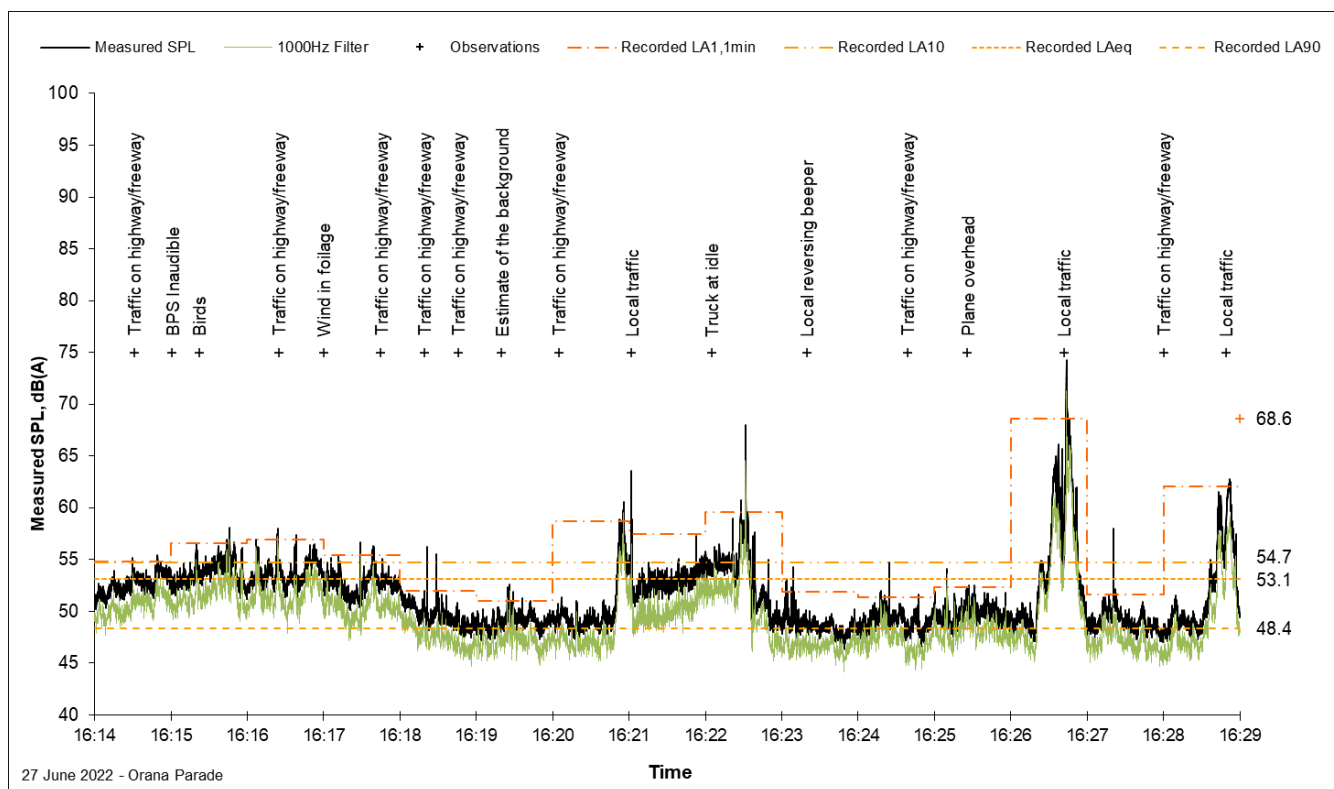
M | 0438 007 971



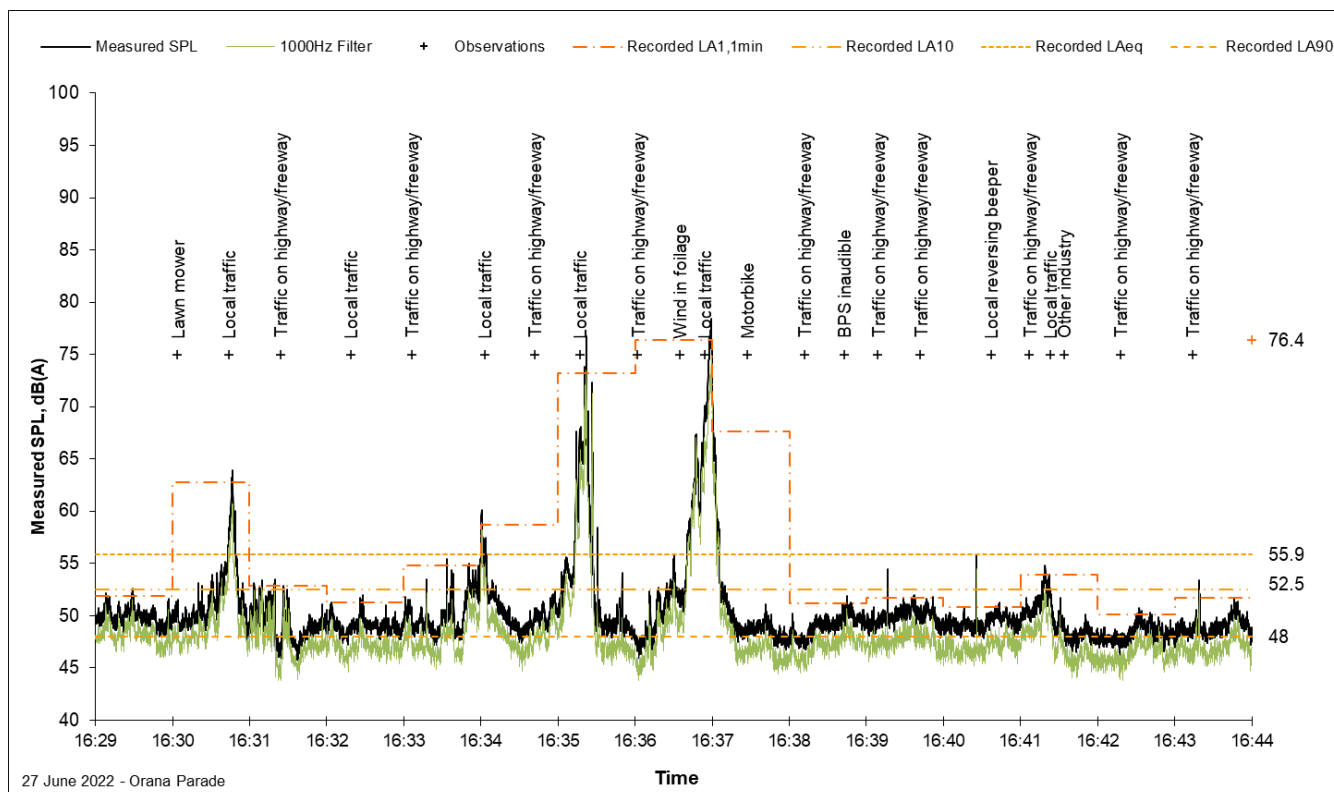
APPENDIX A

**Attended Monitoring Run Charts
NML1 – Orana Parade**

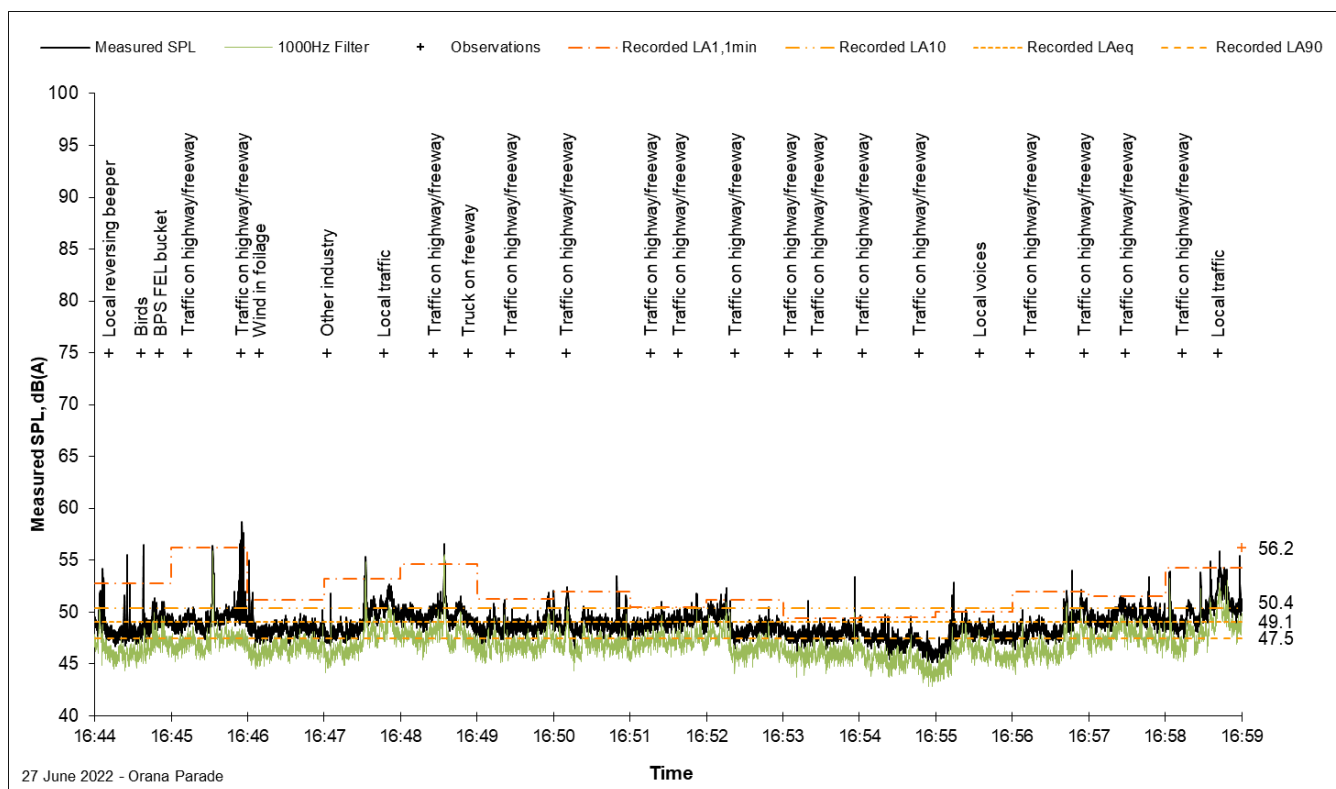
Day Monitoring Results for NML1, Orana Parade



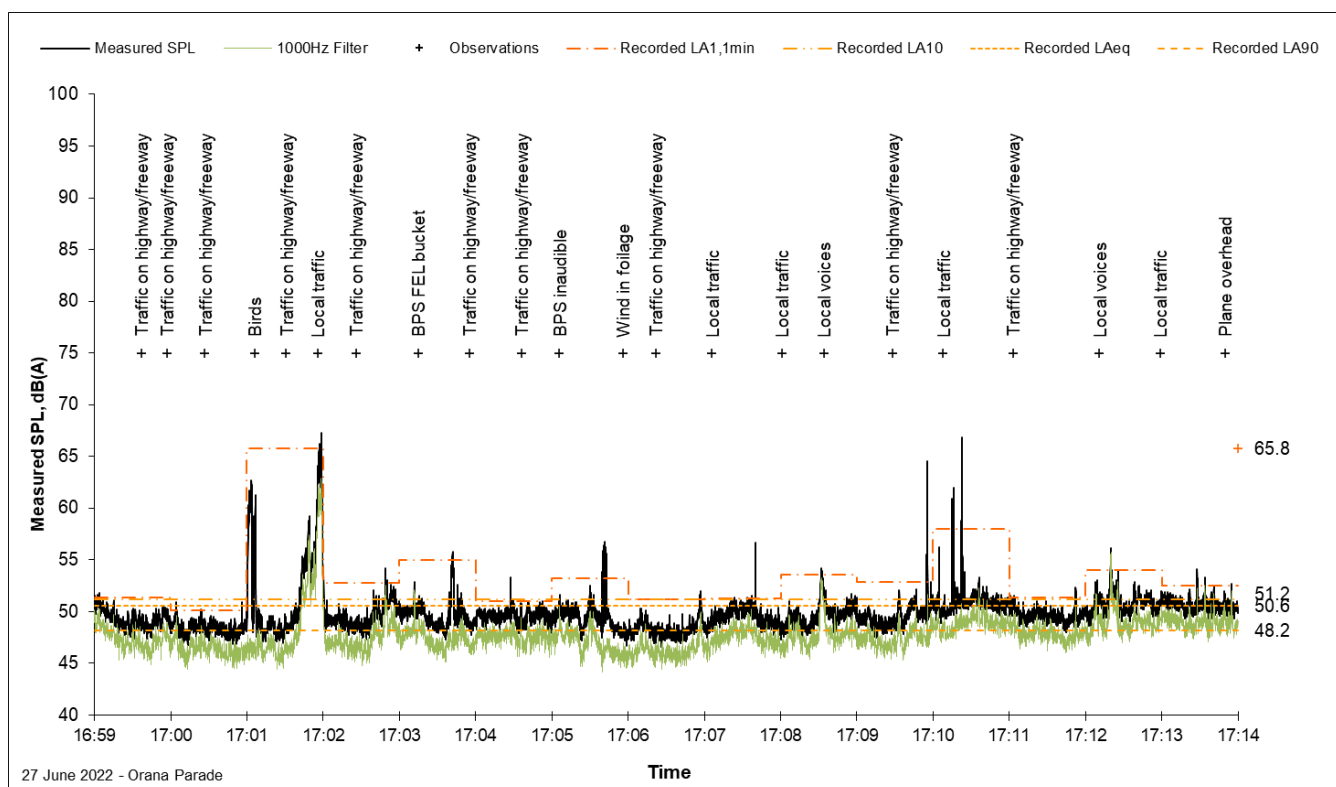
Day Monitoring Results for NML1, Orana Parade



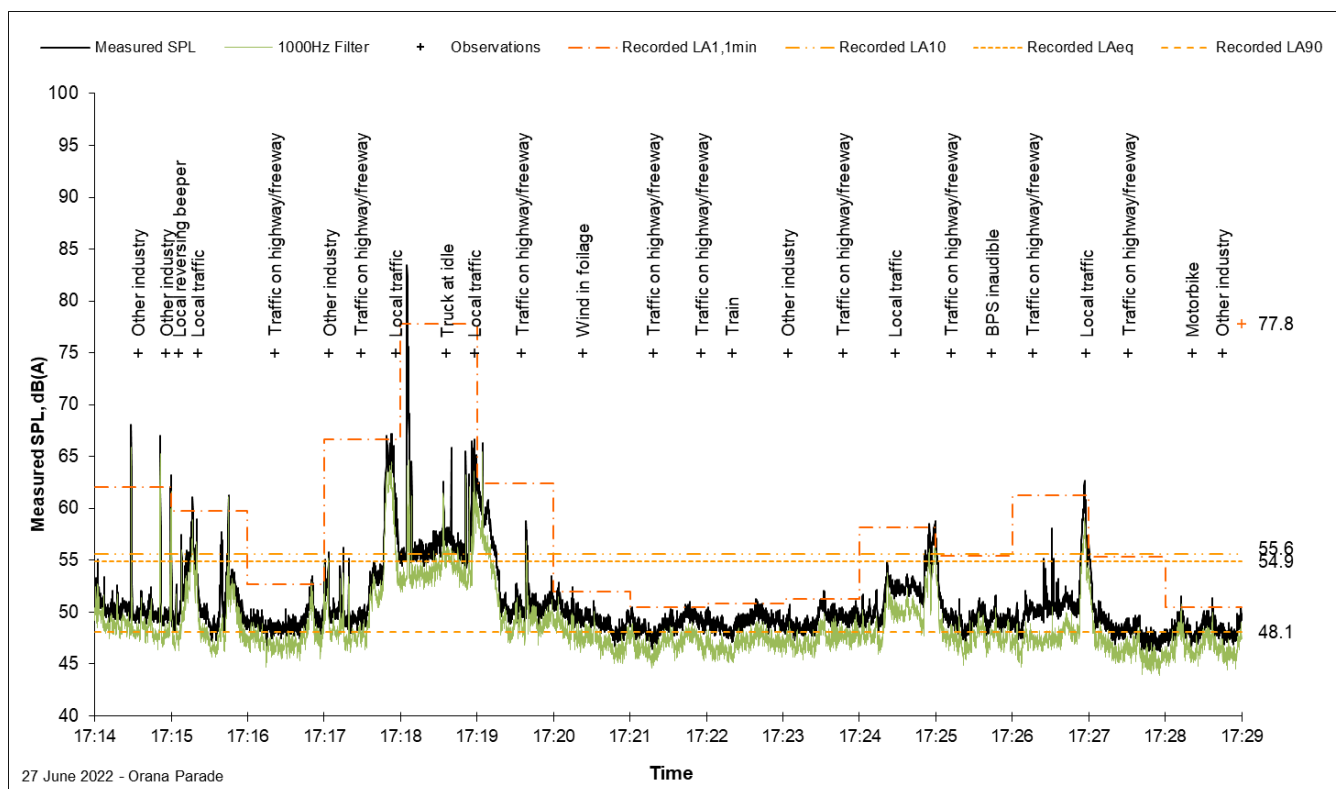
Day Monitoring Results for NML1, Orana Parade



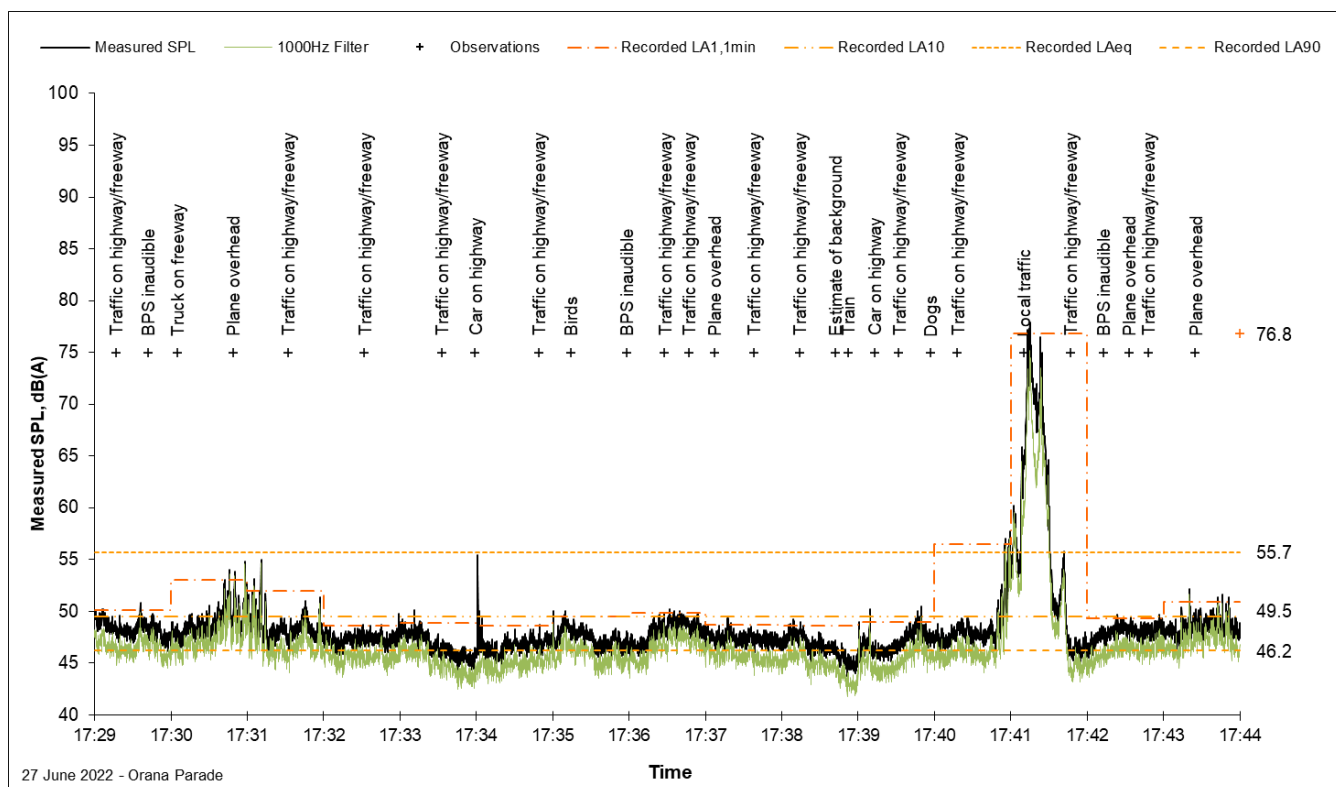
Day Monitoring Results for NML1, Orana Parade



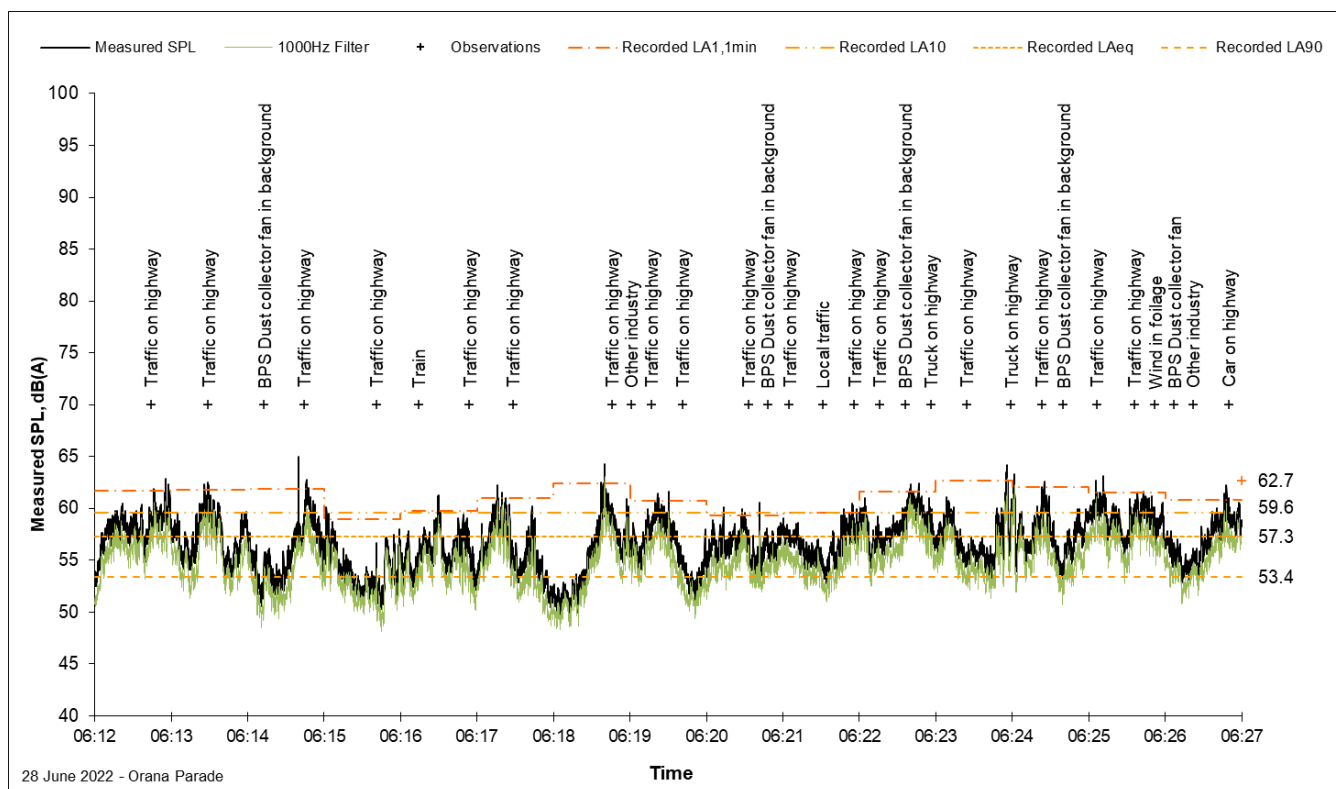
Day Monitoring Results for NML1, Orana Parade



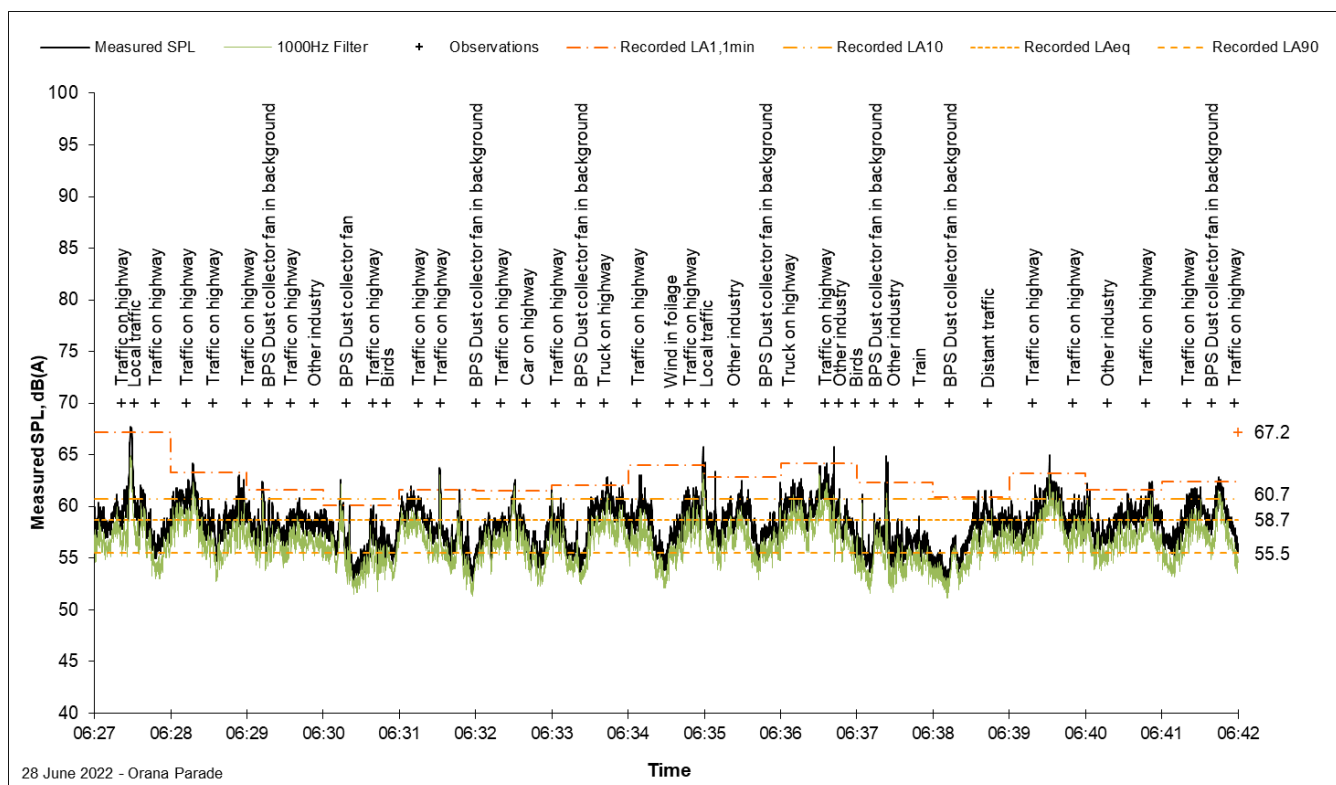
Day Monitoring Results for NML1, Orana Parade



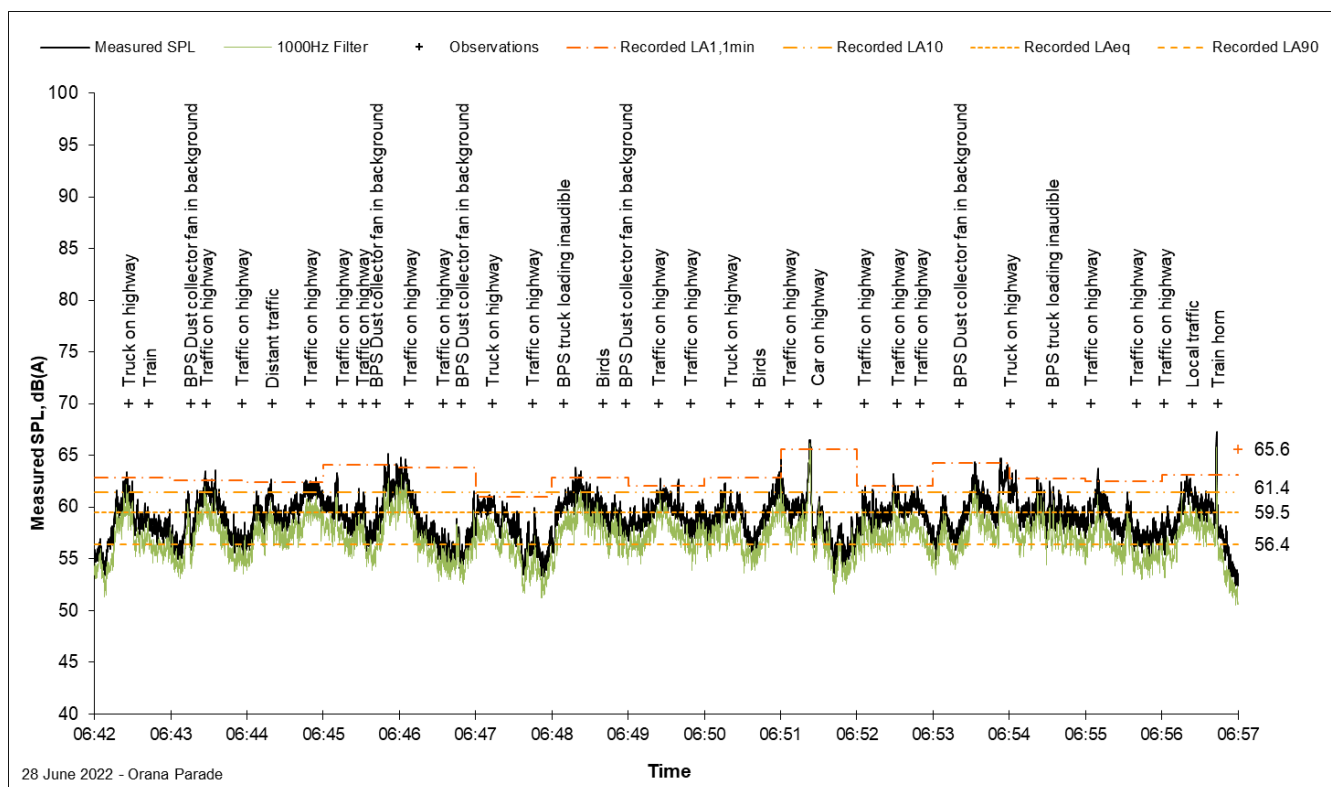
Night Monitoring Results for NML1, Orana Parade



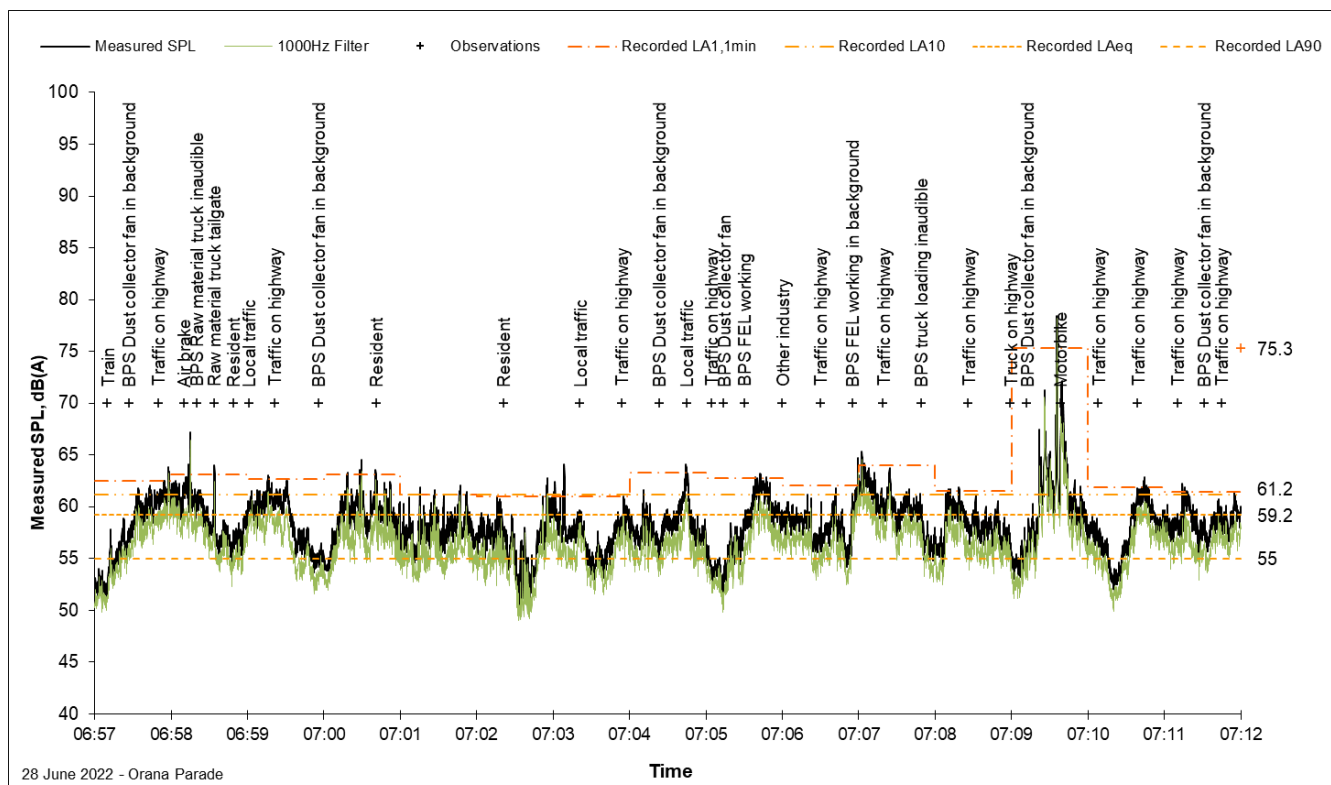
Night Monitoring Results for NML1, Orana Parade

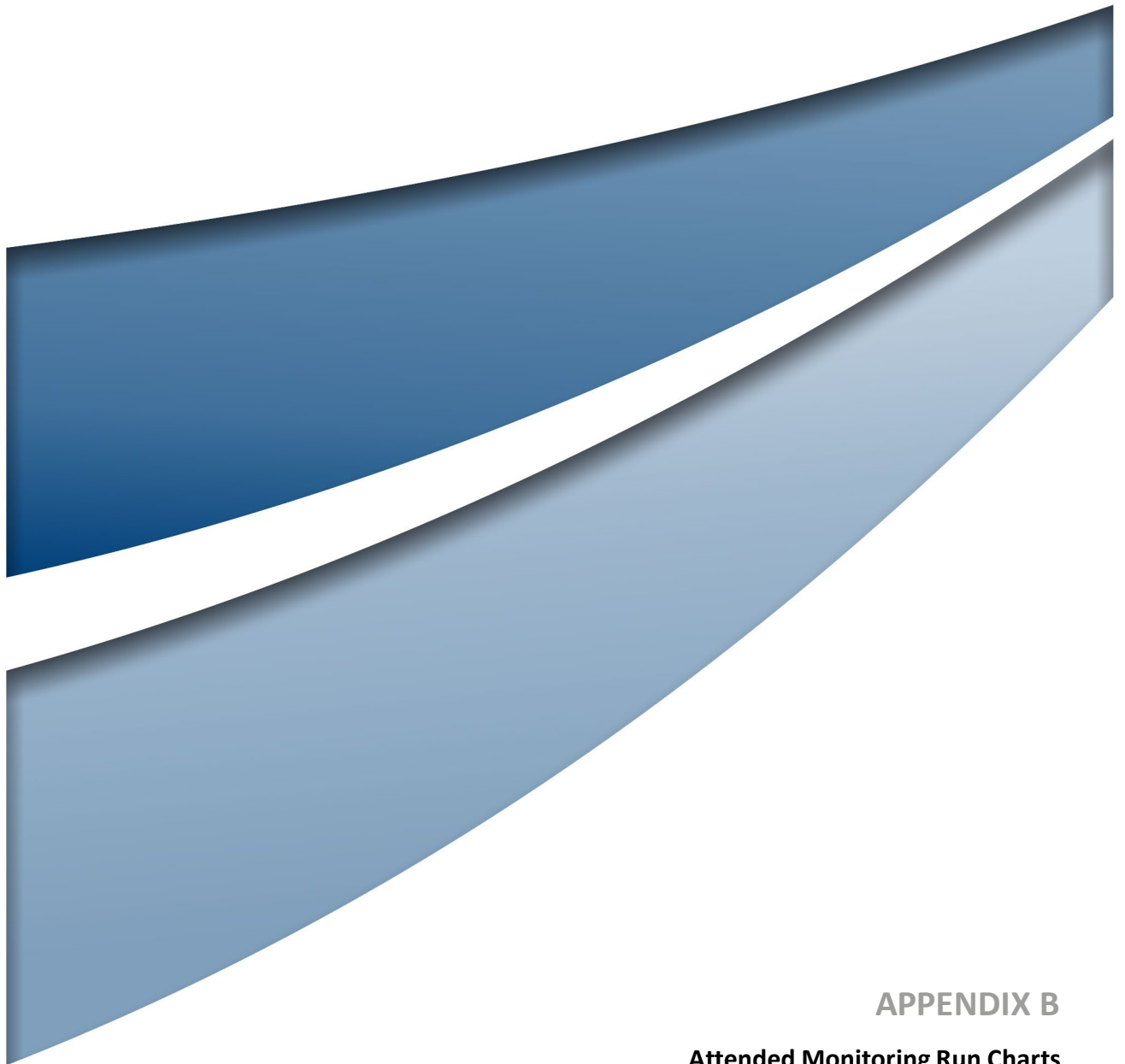


Night Monitoring Results for NML1, Orana Parade



Night Monitoring Results for NML1, Orana Parade

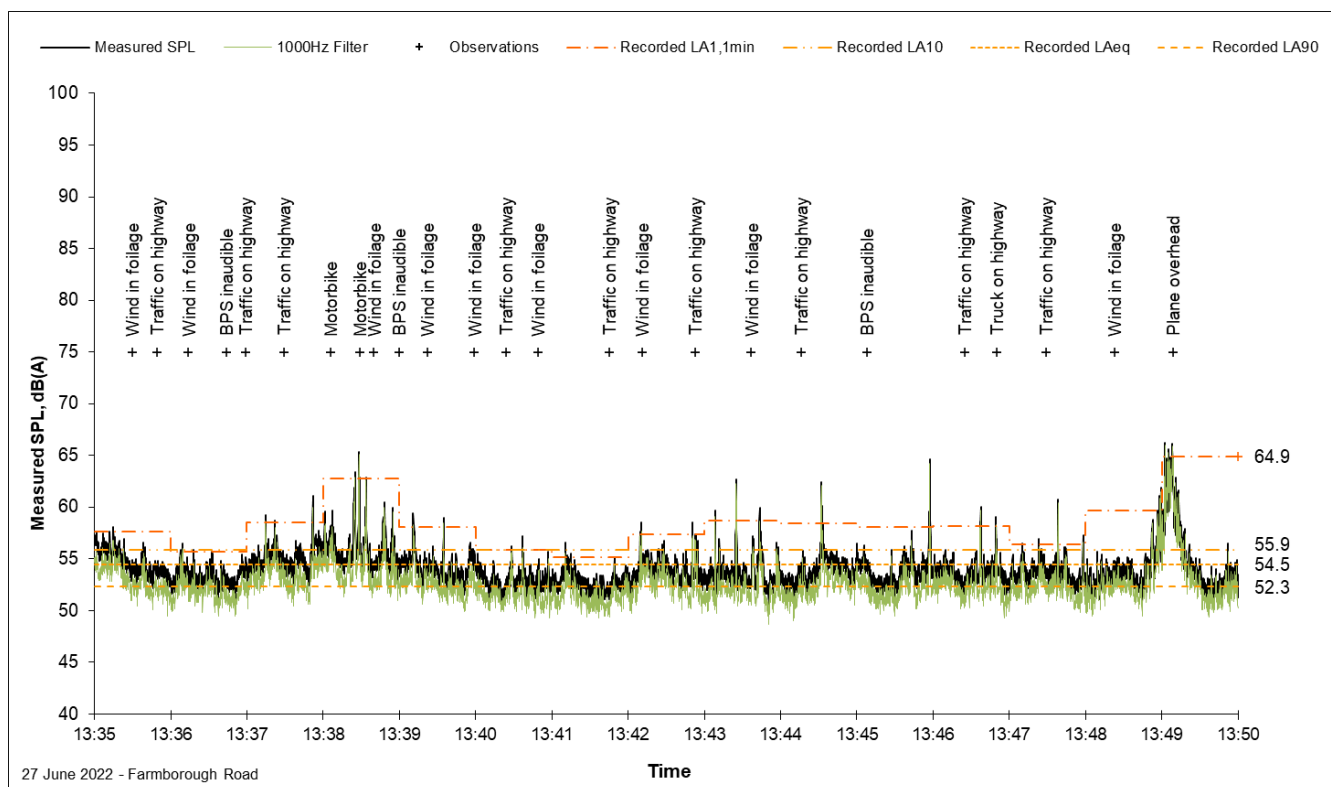




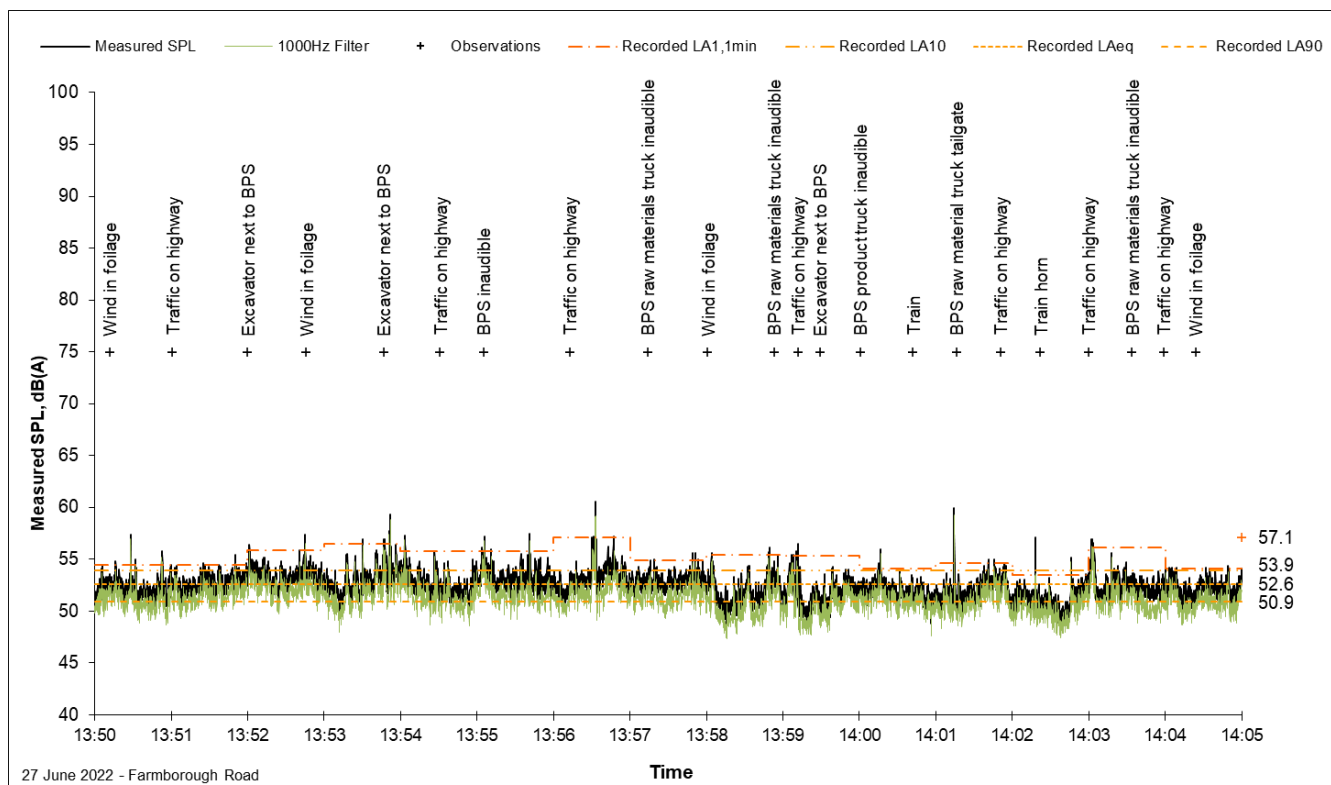
APPENDIX B

**Attended Monitoring Run Charts
NML2 – Farmborough Road**

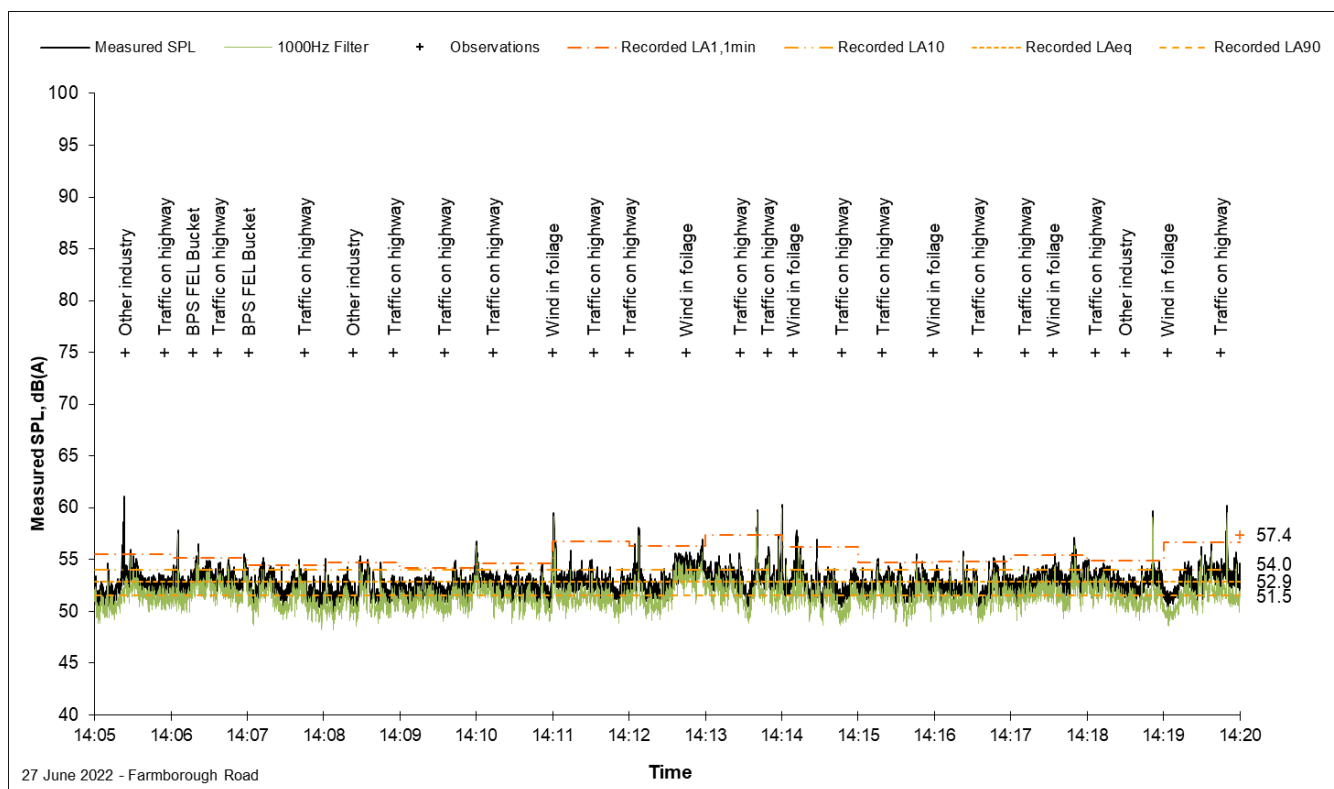
Day Monitoring Results for NML2, Farmborough Road



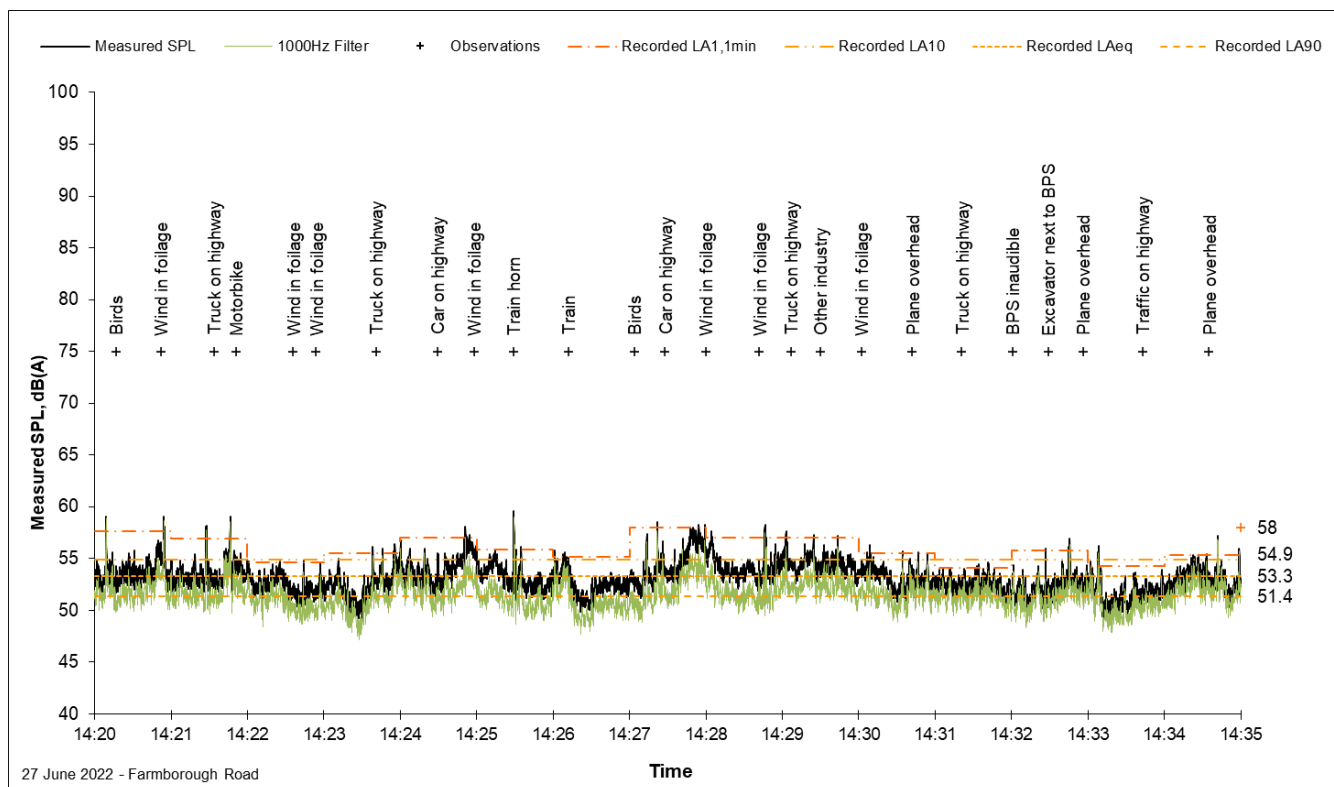
Day Monitoring Results for NML2, Farmborough Road



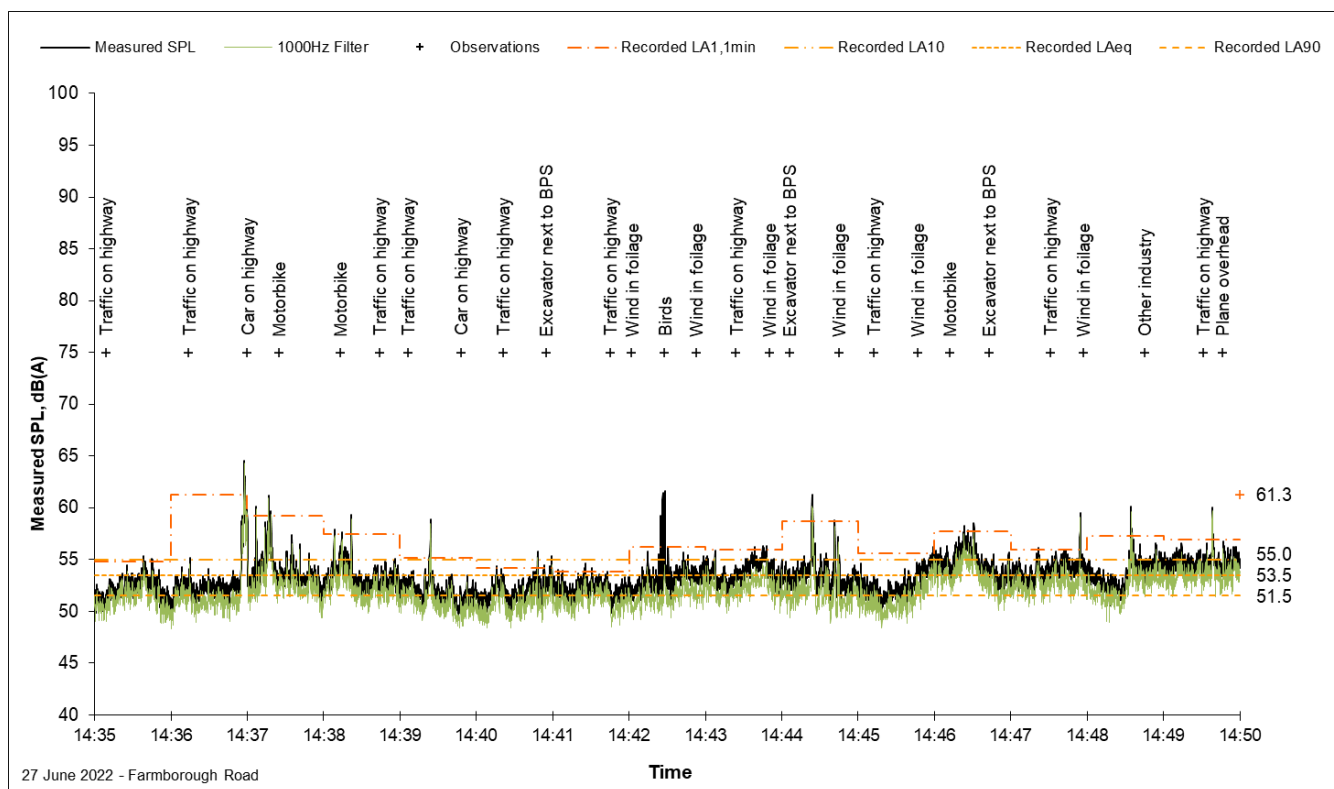
Day Monitoring Results for NML2, Farmborough Road



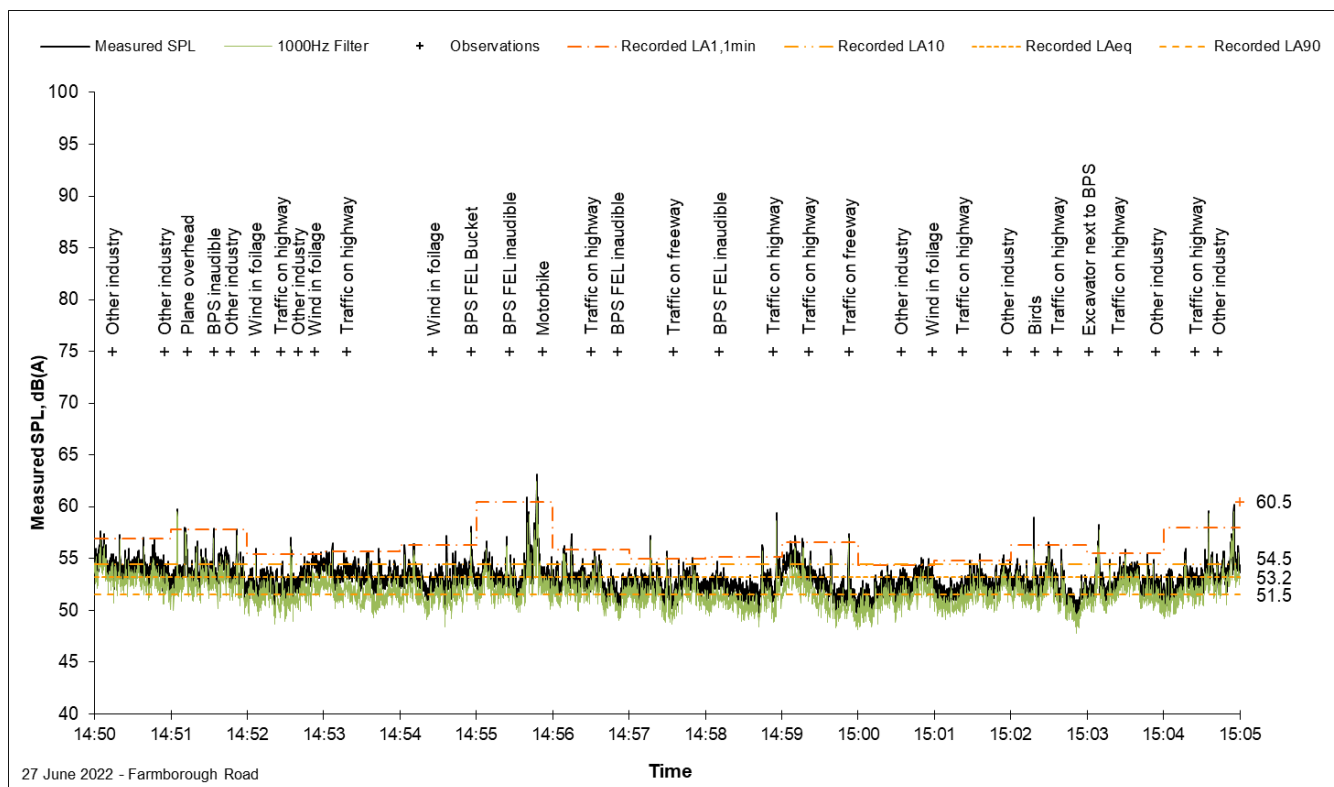
Day Monitoring Results for NML2, Farmborough Road



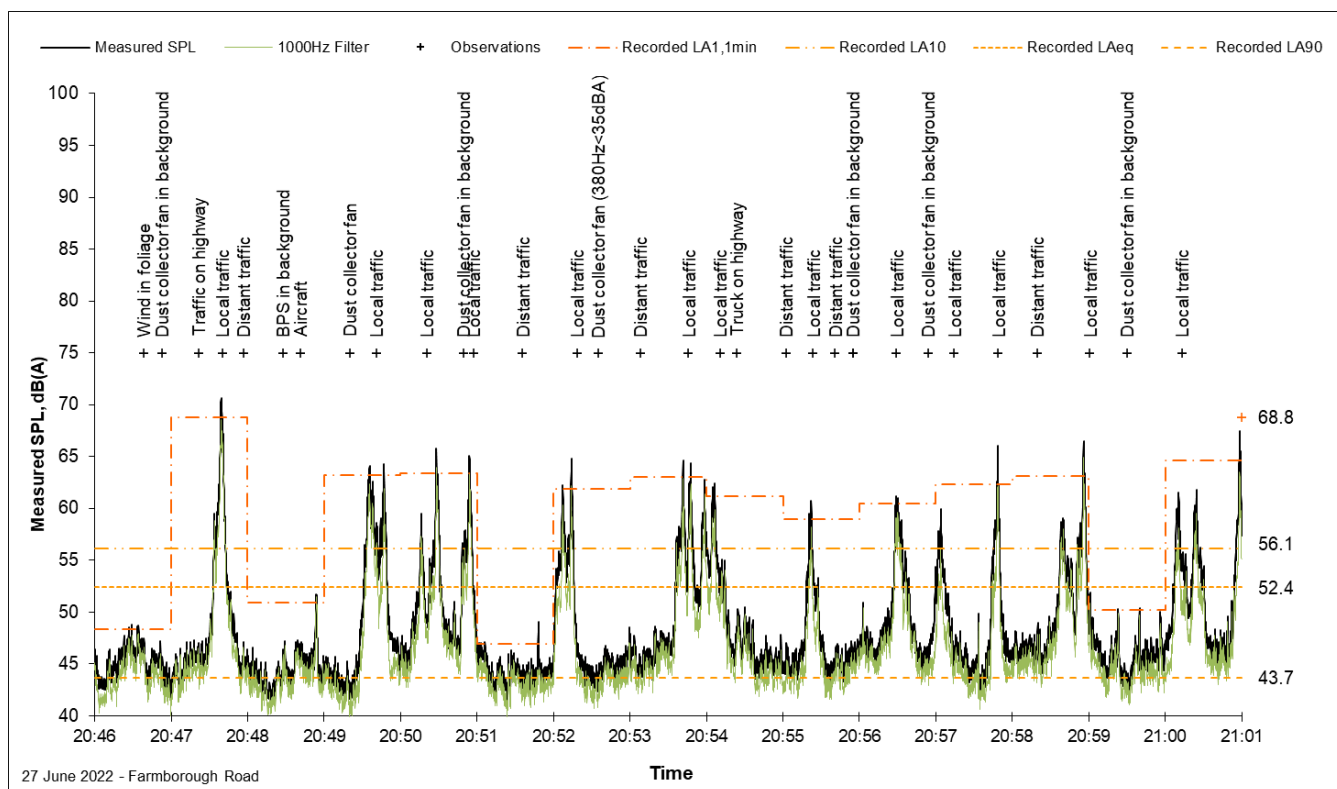
Day Monitoring Results for NML2, Farmborough Road



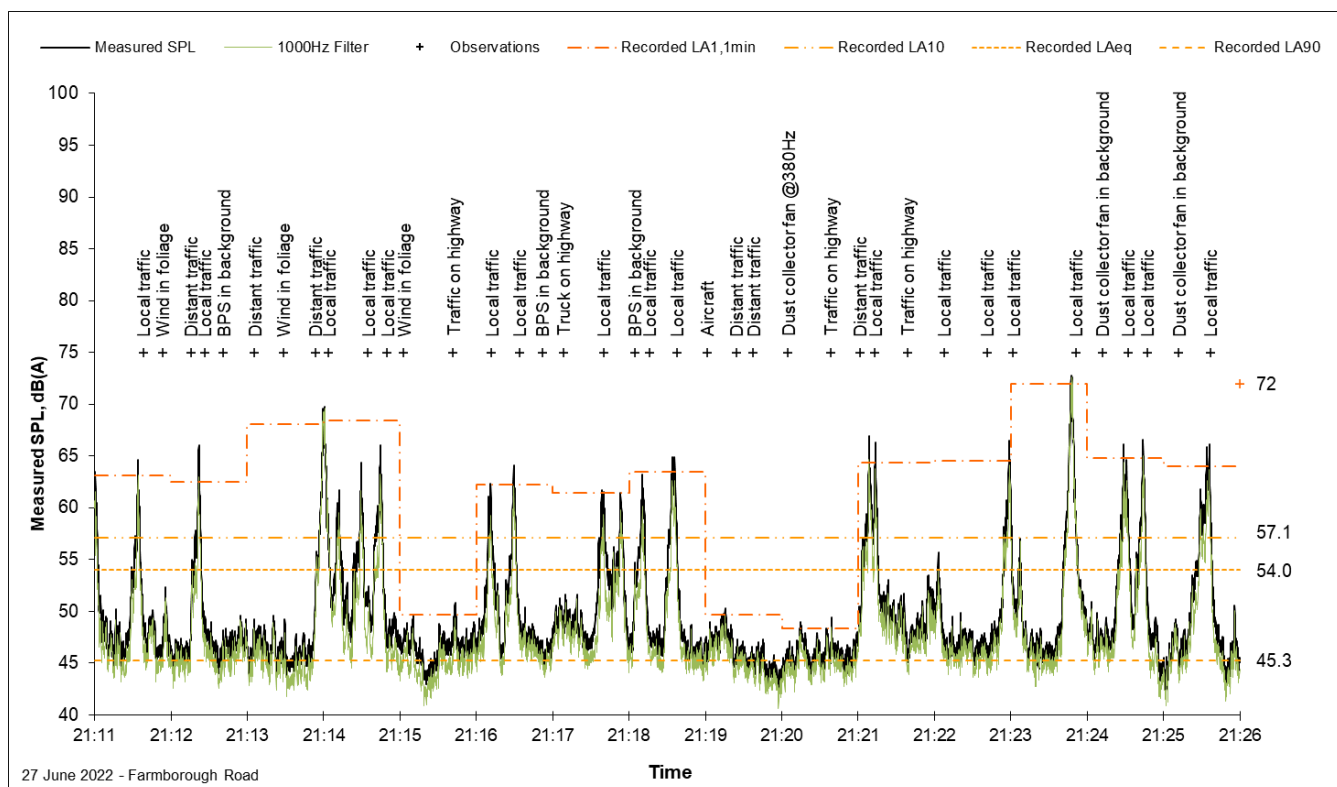
Day Monitoring Results for NML2, Farmborough Road



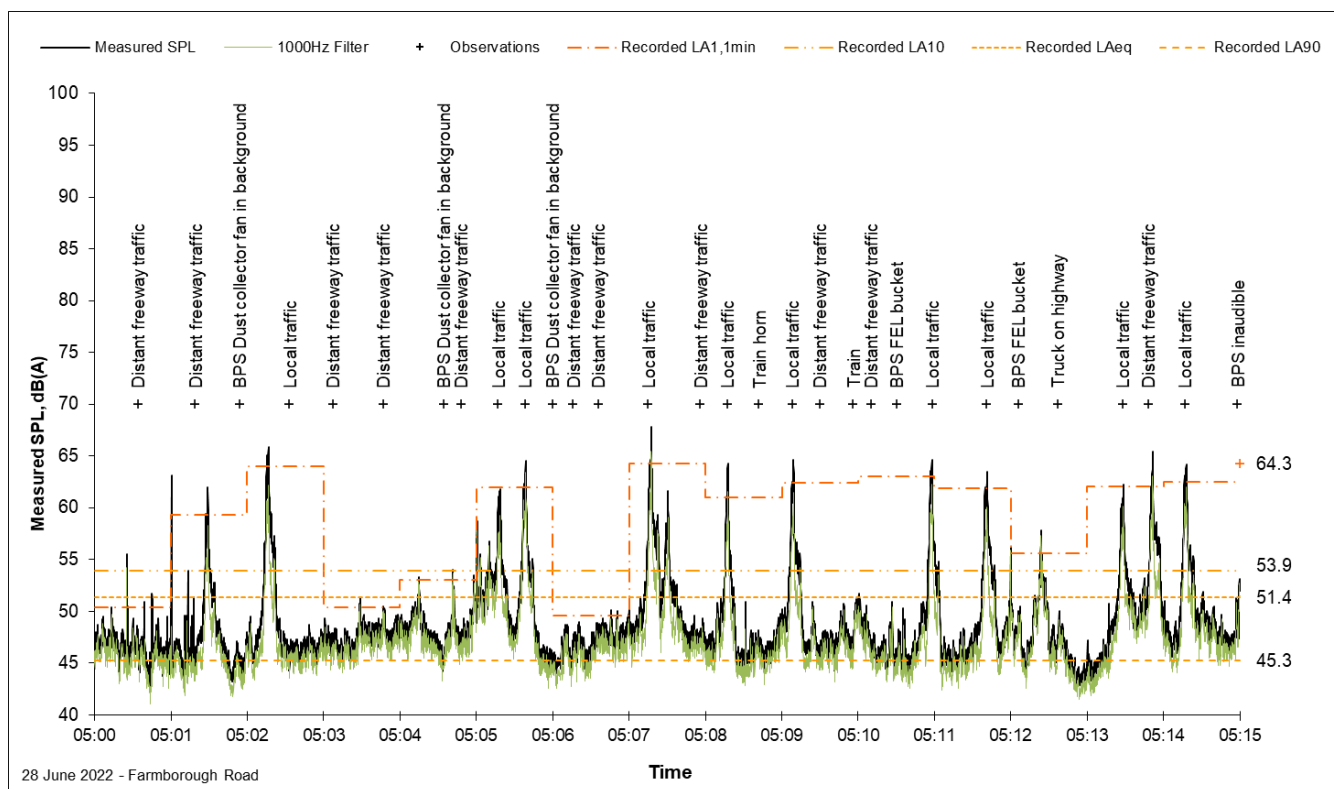
Evening Monitoring Results for NML2, Farmborough Road



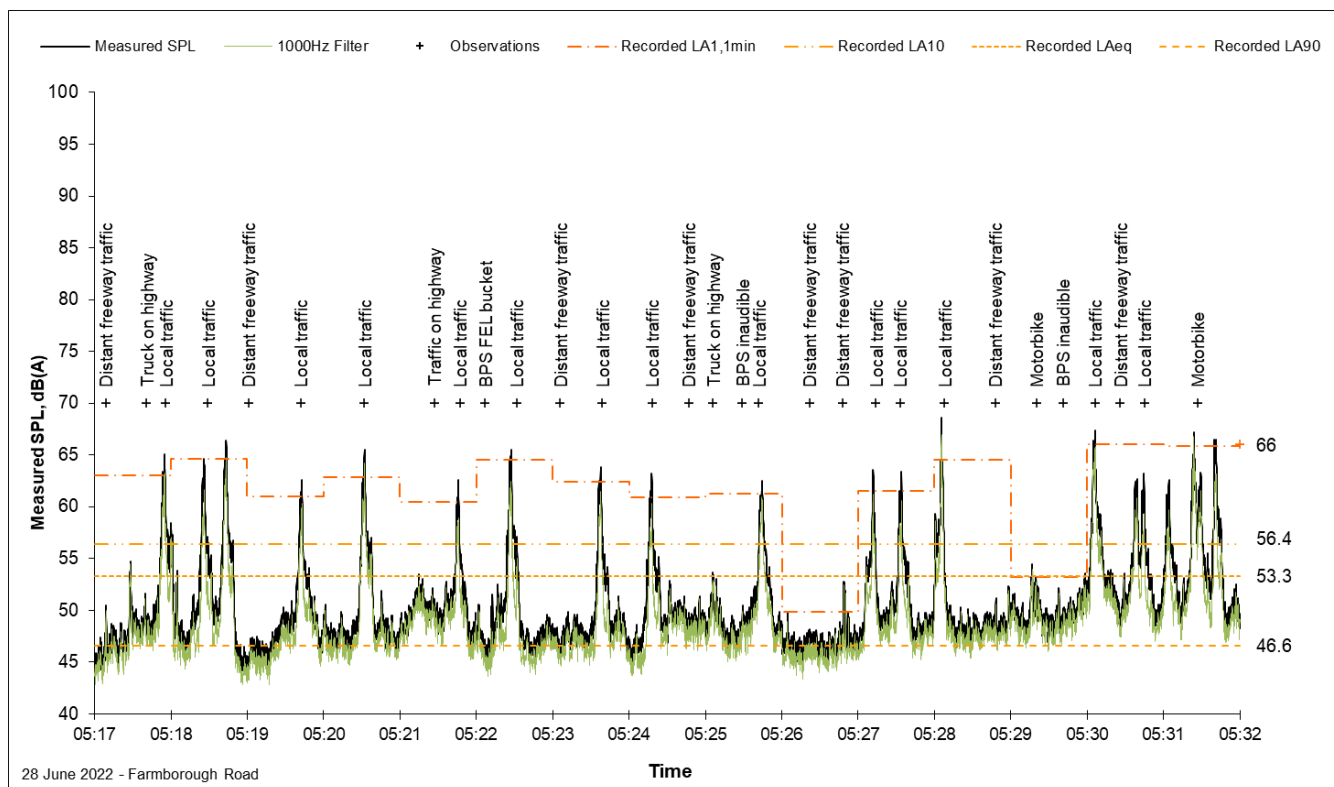
Evening Monitoring Results for NML2, Farmborough Road



Night Monitoring Results for NML2, Farmborough Road



Night Monitoring Results for NML2, Farmborough Road





APPENDIX C
Calibration Certificates

CERTIFICATE OF CALIBRATION

CERTIFICATE No.: **SLM 27549 & FILT 5954**

Equipment Description: Sound & Vibration Analyser

Manufacturer: Svantek

Model No: SVAN-958A **Serial No:** 59838

Microphone Type: 7052E **Serial No:** 71104

Preamplifier Type: SV12L **Serial No:** 73585

Filter Type: 1/3 Octave **Serial No:** 59838

Comments: All tests passed for class 1.
(See over for details)

Owner: Umwelt (Australia) Pty Ltd
75 York Street
Teralba, NSW 2284

Ambient Pressure: 1003 hPa ± 1.5 hPa

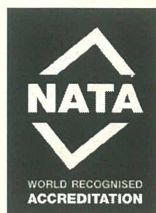
Temperature: 22 °C $\pm 2^\circ$ C **Relative Humidity:** 51% $\pm 5\%$

Date of Calibration: 10/08/2020 **Issue Date:** 12/08/2020

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: *AKB* **AUTHORISED SIGNATURE:** *Jack Kieft*

Accredited for compliance with ISO/IEC 17025 - Calibration
The results of the tests, calibration and/or measurements included in this document are traceable to
Australian/national standards.



Accredited Lab. No. 9262
Acoustic and Vibration
Measurements



HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
Tel: (02) 96808133 Fax: (02) 96808233
Mobile: 0413 809806
web site: www.acu-vib.com.au

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **C30402**

EQUIPMENT TESTED : Sound Level Calibrator

Manufacturer: Svantek

Type No: SV-36

Serial No: 90124

Owner: Umwelt Australia Pty Ltd

75 York Street

Teralba, NSW 2284

Tests Performed: Measured Output Pressure level, Frequency & Distortion

Comments: See Details overleaf. All Test Passed.

Parameter	Pre-Adj	Adj Y/N	Output: (dB re 20 µPa)	Frequency (Hz)	THD&N (%)
Level1:	NA	N	94.03 dB	1000.00 Hz	1.58 %
Level2:	NA	N	114.03 dB	1000.01 Hz	0.50 %
Uncertainty			±0.11 dB	±0.05%	±0.20 %
Uncertainty (at 95% c.l.) k=2					

CONDITION OF TEST:

Ambient Pressure 998 hPa ±1 hPa

Temperature 20 °C ±1° C

Relative Humidity 40 % ±5%

Date of Receipt : 24/08/2021

Date of Calibration : 25/08/2021

Date of Issue : 25/08/2021

Acu-Vib Test AVP02 (Calibrators)

Procedure: Test Method: AS IEC 60942 – 2017

CHECKED BY: 

AUTHORISED
SIGNATURE:



Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.



WORLD RECOGNISED
ACCREDITATION

Accredited Lab No. 9262
Acoustic and Vibration
Measurements


Acu-Vib Electronics
CALIBRATIONS SALES RENTALS REPAIRS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au