

Our Ref: 21963\_R12\_BPS\_Q4\_2023

14 February 2024

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E| <u>bcrawford@indcem.com.au</u>

Dear Ben

## Re: Quarterly Environmental Noise Monitoring – Building Product Services, Quarter 4 2023

Umwelt has completed Quarter 4 2023 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 18 and 19 December 2024. 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*.

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During the attended monitoring sessions, noise measurements were taken with a SVAN 958A Precision Integrating Sound Level Meter (Serial Number 59839) which was calibrated on-site using a Type SV-36, Svantek Sound Level Calibrators (Serial Number 90131). 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 10<sup>th</sup> 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 were 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 10<sup>th</sup> of a second intervals over each 15-minute measurement period.
- The results of a 1000 Hz low pass filter at 10<sup>th</sup> 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 March 2023 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 1Noise Criteria, dB(A)

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



- 🔲 BPS Kembla Grange Site
- Near Field Monitoring Location
- EPL Monitoring Location EPA Kembla Grange Air Quality Monitoring Station (526)

FIGURE 1 Location Figure



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 include 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 forecast prevailing meteorological conditions, 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 NPfl using the sigma theta data to estimate the Pasquill-Gifford stability category, as outlined in Section D1 of the NPfl, as specified in EPL20747.

The Quarter 4 2023 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 5 dB allowance.
- Whether BPS is complying with the noise criteria at the time of monitoring.

At times, the contribution of BPS to total measured noise levels can only be estimated due to the presence of other more dominant noise sources. In these circumstances, the estimated contribution of BPS is determined during lulls of extraneous noise, such as wind or road traffic noise. Additionally, the near field monitoring conducted at Sylvester Avenue assists in determining the contribution of BPS noise levels in the acoustic environment.

Results in **Table 2** for NML1, Orana Parade, note that BPS was inaudible during all day period measurements. This was largely due to the masking effect of road traffic noise and, at times, nearby construction noise continuum. Background noise data was used to confirm that measured noise levels in



the frequencies expected from BPS were below the noise limit. These levels have been used to estimate a day period noise level for BPS at NML1 Orana Parade to confirm compliance, even though BPS operations were noted as inaudible by noise monitoring personnel.

Further details on the operator comments regarding any extraneous noise sources contributing to the ambient noise levels during the evening and night time monitoring period can be found in **Appendix A** for NML1 and in **Appendix B** for NML2 as notated run charts. Noise levels over the fifteen-minute period are presented in terms of an overall all pass noise level and the low pass level showing the noise level up to and including 1000 Hz is also shown.

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**.



	Start Date and Time of 15 min period	Ambient Noise Levels			Estimated <sup>1</sup> I	3PS Contr	ibution and	Criteria, dB(A)		
Period		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Day	18/12/2023 16:04	54	57	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Princes Highway (Highway). BPS was inaudible during the measurement. Other sources included a passing train, birds, noise from a nearby industrial area local traffic.
Day	18/12/2023 16:19	52	58	46	<40	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. Cement tanker inaudible unloading on site. BPS was in audible. Other sources included a passing train, birds and local traffic.
Day	18/12/2023 16:34	53	57	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. Cement tanker inaudible leaving site. BPS was in audible. The FEL working on site was inaudible. Other sources included local traffic.
Day	18/12/2023 16:49	53	58	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was inaudible during the measurement. Other sources included wind gusts and insects.
Day	18/12/2023 17:04	53	57	46	IA	-	_	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was inaudible. A truck on site was inaudible. Other sources included wind gusts and local traffic.

## Table 2 Quarter 4 2023 Attended Noise Monitoring Results – NML1 Orana Parade



	Start Date and Time of 15 min period	Ambient Noise Levels			Estimated <sup>1</sup> I	BPS Cont	ribution and	Criteria, dB(A)		
Period		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Day	18/12/2023 17:19	50	57	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. A cement tanker manoeuvring on the BPS site was inaudible. The FEL working on site was inaudible. Other sources included local traffic, dogs and train noise.
Evening	18/12/2023 21:03	49	55	43	<40	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was inaudible. Other sources noted during the measurement included train noise and local traffic.
Evening	18/12/2023 21:17	47	54	43	<40	-	-	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was inaudible even during lulls in traffic noise. Other sources noted during the measurement included local traffic and noise for the residential area.
Night	18/12/2023 22:01	43	52	40	<35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was inaudible even during lulls in traffic noise. Other sources noted during the measurement included road traffic noise from the motorway, a distant plane and train noise.



	Start Date and Time of 15 min period	Ambient Noise Levels			Estimated <sup>1</sup>	BPS Cont	ribution and	Criteria, dB(A)		
Period		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Night	18/12/2023 22:16	45	58	40	<35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was audible in the background of the measurement as dust collector fan discharge continuum. The FEL working was just audible during lulls in traffic noise. Other sources noted during the measurement included local traffic, cars racing on the highways and train noise.
Night	18/12/2023 22:31	42	52	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was audible in the background of the measurement as dust collector fan discharge continuum. Other sources noted during the measurement included local traffic, distant traffic from the Motorway and cars racing on the highways.
Night	18/12/2023 22:46	44	53	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise from the Highway. BPS was audible in the background of the measurement as dust collector fan discharge continuum and the collector pulse system. Other sources noted during the measurement included local traffic and distant traffic from the Motorway.

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.



	Start Date and Time of 15 min period	Ambient Noise Levels			Estimated	<sup>1</sup> BPS Con	tribution and			
Period		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Day	18/12/2023 15:00	49	54	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by wind noise and road traffic noise on the highway. BPS was inaudible during the measurement.
Day	18/12/2023 15:15	49	57	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by wind noise and road traffic noise on the highway. BPS was inaudible during the measurement. Other sources included a freight train.
Day	18/12/2023 15:30	49	53	46	IA	-		+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by wind noise and road traffic noise on the highway. BPS was inaudible during the measurement. Other sources included birds.
Day	18/12/2023 15:45	48	52	46	IA	-	_	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by wind noise and road traffic noise on the highway. BPS was inaudible during the measurement. Other sources included birds and noise from the industrial area (not related to BPS).
Day	18/12/2023 16:00	48	46	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by wind noise and road traffic noise on the highway. BPS was inaudible during the measurement. Other sources included birds, a freight train and noise from the industrial area (not related to BPS).

## Table 3 Quarter 4 2023 Attended Noise Monitoring Results – NML2 Farmborough Road



	Start Date and Time of 15 min period	Ambient Noise Levels			Estimated	<sup>1</sup> BPS Con	tribution and			
Period		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Day	18/12/2023 16:15	45	54	46	IA	-	-	+ 5 dB	Yes	The ambient noise environment at the monitoring location was dominated by wind noise, local residential noises and road traffic noise on the highway. BPS was inaudible with a cement tanker unloading during the measurement. Other sources included birds and distant traffic on the motorway.
Evening	18/12/2023 20:00	46	74	43	IA	-	IA	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by insects and road traffic noise on the highway. BPS was inaudible during the measurement. Other sources included local traffic.
Evening	18/12/2023 20:15	50	66	43	IA	-	IA	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by insects and road traffic noise on the highway. BPS was inaudible during the measurement. Other sources included distant traffic from the motorway background industrial area (not related to BPS) and breeze in foliage.
Night	18/12/2023 23:15	36	42	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise on the Highway. BPS was just audible during lulls in traffic. Other sources included insects, local traffic and train noise.



	Start Date and Time of 15 min period	Ambient Noise Levels			Estimated	<sup>1</sup> BPS Con	tribution and			
Period		LA90, 15min	LAeq, 15min	EPL criteria LAeq,15min	BPS LAeq,15min <sup>1</sup>	EPL criteria LAFmax	BPS LAFmax <sup>1</sup>	Met <sup>2,3,4</sup> Allowance (0dB/+5dB)	BPS Complies (Yes/No)	Comments
Night	18/12/2023 23:30	41	46	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise on the Highway. BPS was just audible during lulls in traffic. Other sources included insects, local traffic and individual vehicles on the highway.
Night	18/12/2023 23:45	38	43	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise on the Highway. BPS was just audible during lulls in traffic. Other sources included individual vehicles such as a bus, insects, local traffic and train noise.
Night	19/12/2023 00:00	38	42	40	< 35	52	< 40 No specific event noted	0 dB	Yes	The ambient noise environment at the monitoring location was dominated by road traffic noise on the Highway and from the Motorway. BPS was just audible during lulls in traffic. Other sources included insects, a plane overhead, local traffic and train noise.

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

		Meteorolog	ical Assessment	during Monito	ring Period <sup>1,2</sup>	Includes
EPL Id	Start Date and Time of 15 min period	Rain (mm)	Avg. Wind Speed @ Mic. <sup>3</sup> (m/s)	Avg. Wind Speed @ 10m (m/s)	Atmospheric Stability Category (ASC)	Meteorological Allowance <sup>4,</sup> (0dB/+5dB)
NML1	18/12/2023 16:04	0	< 5	6.1	D	+ 5 dB
NML1	18/12/2023 16:19	0	< 5	6.1	D	+ 5 dB
NML1	18/12/2023 16:34	0	< 5	6.1	D	+ 5 dB
NML1	18/12/2023 16:49	0	< 5	6.1	D	+ 5 dB
NML1	18/12/2023 17:04	0	< 5	6.1	D	+ 5 dB
NML1	18/12/2023 17:19	0	< 5	6.1	D	+ 5 dB
NML1	18/12/2023 21:03	0	< 5	0.9	F	0 dB
NML1	18/12/2023 21:17	0	< 5	0.9	F	0 dB
NML1	18/12/202322:01	0	< 5	0.4	F	0 dB
NML1	18/12/2023 22:16	0	< 5	0.4	F	0 dB
NML1	18/12/2023 22:31	0	< 5	0.4	F	0 dB
NML1	18/12/2023 22:46	0	< 5	0.4	F	0 dB
NML2	18/12/2023 15:00	0	< 5	6.0	D	+ 5 dB
NML2	18/12/2023 15:15	0	< 5	6.0	D	+ 5 dB
NML2	18/12/2023 15:30	0	< 5	6.0	D	+ 5 dB
NML2	18/12/2023 15:45	0	< 5	6.0	D	+ 5 dB
NML2	18/12/2023 16:00	0	< 5	6.1	D	+ 5 dB
NML2	18/12/2023 16:15	0	< 5	6.1	D	+ 5 dB
NML2	18/12/2023 20:00	0	< 5	1.4	F	0 dB
NML2	18/12/2023 20:15	0	< 5	1.4	F	0 dB
NML2	18/12/2023 23:15	0	< 5	0.6	F	0 dB
NML2	18/12/2023 23:30	0	< 5	0.6	F	0 dB
NML2	18/12/2023 23:45	0	< 5	0.6	F	0 dB
NML2	19/12/2023 00:00	0	< 5	0.4	F	0 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**

To investigate the contribution of BPS noise levels to the acoustic environment at the monitoring locations, near-field monitoring was undertaken to the north of BPS, at Sylvester Avenue during the night period.

**Figure 2** shows the one-third octave noise levels of the acoustic environment at Sylvester Avenue which includes the overall LAeq (period analysis) for overall context, and selected snapshots from the measurement demonstrating the contributions of individual sources when they were dominant. The snapshots include:

- The BPS plant continuum, including the dust collector system.
- The BPS pulse lines with the BPS plant continuum.



• Car pass-by on the highway.

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

**Figure 2** shows one-third octave noise levels of the BPS plant does not have a low frequency or tonal aspect. The noise generated by the pulse line shown in **Figure 2** was audible at the Sylvester Avenue monitoring location but was not audible at NM1 or NM2.



#### **Review of monitoring requirements**

As has been previously reported, the cement tanker discharge blower system was found to be inaudible at NML1 and NM2.

BPS has purchased a new front-end loader. The measured sound power level of the front-end loader was measured at 102 dB(A). This is 3 dB(A) lower than the former, sound-attenuated front-end loader.

#### **Statement of Compliance**

The results of the Quarter 4 2023 noise monitoring program have been assessed against the EPL 20747 noise criteria and the meteorological conditions identified in the license for BPS.

The Quarter 4 2023 attended noise monitoring results show that BPS was compliant with the BPS EPL 20747 noise criteria for LAeq,15minute and LAFmax noise levels for all monitoring locations.

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

**Tim Procter** Practice Lead – Acoustic Environment

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#### 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





#### Evening Monitoring Results for NML1, Orana Parade



#### **Evening 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







### 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





#### Night Monitoring Results for NML2, Farmborough Road



#### Night Monitoring Results for NML2, Farmborough Road





# CERTIFICATE OF CALIBRATION

**CERTIFICATE NO: SLM33138** 

**EQUIPMENT TESTED:** Sound & Vibration Analyser

Manufacturer:	Svantek		
Type No:	SVAN-958A	Serial No:	59839
Mic. Type:	7052E	Serial No:	71109
Pre-Amp. Type:	SV12L	Serial No:	73589
Filter Type:	1/3 Octave	Test No:	F033139
		Print Barrier and Last Last	

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

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details) **CONDITIONS OF TEST:** 

**Ambient Pressure** Temperature **Relative Humidity** 

996 hPa ±1 hPa °C +1° C 22 48 % ±5%

**Date of Receipt :** 08/07/2022 Date of Calibration : Date of Issue :

08/07/2022 11/07/2022

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters) CHECKED BY: **AUTHORISED SIGNATURE:** 



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<sup>•</sup>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

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## CERTIFICATE OF CALIBRATION

**CERTIFICATE NO: C36730** 

EQUIPMENT TESTED: Sound Level Calibrator

Manufact Typ Ov Tests Perfor Comm	urer: e No: vner: med: ents:	Svant SV-36 Umwe 75 Yo Teralb Measu See Do	ek Seria elt (Australia) rk Street oa, NSW 2284 ired Output Pre etails overleaf.	Il No: Pty Ltd I essure le All Test	90131 evel, Frequency & Distortion Passed.		
Parameter	Pre-	Adj	Output	ut:	Frequency	THD&N	
Level1:	NA	N	93,98	<u>ига)</u> dB	1000 00 Hz	0.71 %	
Level2:	NA	N	113.96	dB	1000.00 Hz	0.35 %	
Unce	rtainty	,	±0.11	dB	±0.05%	±0.20 %	
Uncertainty (at	95% c.l	.) k=2				Rever and	
CONDITION OF TEST: Ambient Pressure Temperature Relative Humidity		1010 hPa ±1 hPa D 25 °C ±1° C Date 33 % ±5%			ate of Receipt : of Calibration : Date of Issue :	10/07/2023 11/07/2023 12/07/2023	
Acu-Vib Procee Checked B	Test lure: Y:	AVP02 Test M	? (Calibrators) lethod: AS IEC Authoris Signatu	60942 - SED RE:	2017 M	r.M.	

Accredited for compliance with ISO/IEC 17025 - Calibration

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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.

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