

# **White Bay 6**

## **Operational noise compliance assessment 2024**

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Prepared for Sydney Harbour Boat Storage

March 2024

# White Bay 6

## Operational noise compliance assessment 2024

Sydney Harbour Boat Storage

E240137 RP1

March 2024

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# 1 Introduction

## 1.1 Background

EMM Consulting Pty Ltd (EMM) was engaged by Sydney Harbour Boat Storage to conduct an annual operational noise compliance assessment of the marine storage and refuelling facility (the site) at Berth 6, White Bay, NSW. The survey purpose was to quantify the acoustic environment and compare site noise levels against specified limits.

Attended environmental noise monitoring described in this report was done during the day/evening/night period(s) of 5 March 2024 at four off-site monitoring locations. An additional three measurements were conducted at the boundary of site. This was done to reduce extraneous noise source contamination and to better define the site's noise contribution.

## 1.2 Attended monitoring locations

The monitoring locations are detailed in Table 1.1 and shown on Figure 1.1. It should be noted that Figure 1.1 shows actual monitoring positions, not necessarily the location of residences.

**Table 1.1** Attended noise monitoring locations

ID	Description/address	Coordinates (MGA56)	
		Easting	Northing
1	South east boundary of site	332647	6251765
2	North east boundary of site	332703	6251843
3	North west boundary of site	332605	6251848
4	1 Grafton St, Balmain	332562	6251878
5	12A Grafton St, Balmain	332489	6251877
6	24 Datchett Street, Balmain East	332777	6251957
7	41 Pirrama Road, Pyrmont	332798	6251508

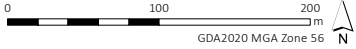


- KEY**
- The site
  - Sensitive receiver
  - Short-term attended noise monitoring location
- INSET KEY**
- Major road
  - NPWS reserve
  - State forest

Site locality and noise monitoring locations

White Bay 6  
Operational noise compliance assessment  
Figure 1.1

Source: EMM (2023); DCSSS (2023); GA (2009); SixMaps (2023)



\\lemmsvr1\EMM\2\2023\E2\30131 - SHBS Annual Noise Compliance\8 GIS\02 Maps\NO01 NoiseMonitoringLocations\_20230426\_01.mxd 26/04/2023

### 1.3 Terminology and abbreviations

Some definitions of terms and abbreviations which may be used in this report are provided in Table 1.2.

**Table 1.2 Terminology and abbreviations**

Term/descriptor	Definition
dB(A)	Noise level measurement units are decibels (dB). The “A” weighting scale is used to approximate how humans hear noise.
$L_{amax}$	The maximum root mean squared A-weighted noise level over a time period.
$L_{A1}$	The A-weighted noise level which is exceeded for 1 per cent of the time.
$LA_{1,1minute}$	The A-weighted noise level which is exceeded for 1 per cent of the specified time period of 1 minute.
$LA_{10}$	The A-weighted noise level which is exceeded for 10 percent of the time.
$L_{aeq}$	The energy average A-weighted noise level.
$LA_{50}$	The A-weighted noise level which is exceeded for 50 per cent of the time, also the median noise level during a measurement period.
$LA_{90}$	The A-weighted noise level exceeded for 90 percent of the time, also referred to as the “background” noise level and commonly used to derive noise limits.
$L_{amin}$	The minimum A-weighted noise level over a time period.
$L_{ceq}$	The energy average C-weighted noise energy during a measurement period. The “C” weighting scale is used to take into account low-frequency components of noise within the audibility range of humans.
SPL	Sound pressure level. Fluctuations in pressure measured as 10 times a logarithmic scale, with the reference pressure being 20 micropascals.
Hertz (Hz)	The frequency of fluctuations in pressure, measured in cycles per second. Most sounds are a combination of many frequencies together.
AWS	Automatic weather station used to collect meteorological data, typically at an altitude of 10 metres
VTG	Vertical temperature gradient in degrees Celsius per 100 metres altitude.
Sigma-theta	The standard deviation of the horizontal wind direction over a period of time.
IA	Inaudible. When site noise is noted as IA then there was no site noise at the monitoring location.
NM	Not Measurable. If site noise is noted as NM, this means some noise was audible but could not be quantified.
Day	Monday – Saturday: 7 am to 6 pm, on Sundays and Public Holidays: 8 am to 6 pm.
Evening	Monday – Saturday: 6 pm to 10 pm, on Sundays and Public Holidays: 6 pm to 10 pm.
Night	Monday – Saturday: 10 pm to 7 am, on Sundays and Public Holidays: 10 pm to 8 am.

Appendix A provides further information that gives an indication as to how an average person perceives changes in noise level, and examples of common noise levels.

## 2 Noise limits

### 2.1 Environment protection licence

Noise assessment criteria for the operations are provided in White Bay 6 Pty Ltd Environmental Protection Licence (EPL) 20144 as per the notice of variation 3 March 2021 (current at the time of monitoring). Relevant sections of the EPL are reproduced in Appendix B.1.

L3.1 of the EPL states what operations are considered relevant for this assessment:

L3.1 The use of any part of the premises including vessel refuelling and other activities, and the operation of any plant, machinery and other equipment on the site must not exceed the sound level pressure (noise) limits presented in the Tables below.

Noise limits based on the site's EPL L3 are provided in Table 2.1.

**Table 2.1** Noise impact limits, dB

Location	Day $L_{aeq,15minute}$	Evening $L_{aeq,15minute}$	Night $L_{aeq,15minute}$	Night $L_{aeq,9hour}$	Night $L_{A1,1minute}$
4	54	48	48	45	59
5	36	35	35	35	60
6	49	44	44	41	54
7	40	35	35	35	61

EPL Condition L3.5 to L3.8 outline noise requirements including the location of the measurements to assess compliance and other relevant information which has been used for this assessment. Extracts of this section of the EPL are provided in Appendix B.1.

### 2.2 Meteorological conditions

Condition L3.9 of the EPL states the meteorological conditions which the noise limits apply under:

L3.9 The noise emission limits identified in this condition apply under meteorological conditions of wind speed of up to 3 metres per second at 10 metres above ground level, and temperature inversion conditions.

### 2.3 Additional considerations

Monitoring and reporting have been done in accordance with the NSW EPA 'Noise Policy for Industry' (Npfi) issued in October 2017 and the 'Approved methods for the measurement and analysis of environmental noise in NSW' (Approved Methods) issued in January 2022.



## 3 Methodology

### 3.1 Overview

Attended environmental noise monitoring was done in general accordance with Australian Standard AS1055 'Acoustics, Description and Measurement of Environmental Noise' and relevant NSW requirements. Meteorological data was obtained from the Fort Denison automatic weather station (AWS) (station ID 066022) which allowed correlation of atmospheric parameters with measured site noise levels.

### 3.2 Attended noise monitoring

During this survey, attended noise monitoring was conducted during the day/evening/night period at each location. The duration of each measurement was 15 minutes. Atmospheric conditions were measured at each monitoring location.

Measured sound levels from various sources were noted during each measurement, and particular attention was paid to the extent of site's contribution (if any) to measured levels. At each monitoring location, the site-only  $L_{\text{aeq},15\text{minute}}$  and  $L_{\text{amax}}$  were measured directly or determined by other methods detailed in Section 7.1 of the Npfl.

If the exact noise levels from site could not be established due to masking by other noise sources in a similar frequency range, but site noise was determined to be at least 5 dB lower than relevant limits, then a maximum estimate of site noise may be provided. This is expressed as a 'less than' quantity, such as <20 dB or <30 dB.

The terms 'Inaudible' (IA) or 'Not Measurable' (NM) may be used in this report. When site noise is noted as IA, no site noise was audible at the monitoring location. When site noise is noted as NM, this means site noise was audible but could not be quantified. All results noted as NM in this report were due to one or more of the following:

- Site noise levels were extremely low and unlikely, in many cases, to be noticed.
- Site noise levels were masked by other more dominant noise sources that are characteristic of the environment, such as breeze in foliage or continuous road traffic noise, that cannot be eliminated by monitoring at an alternate or intermediate location.
- It was not feasible or reasonable to employ methods such as to move closer and back calculate. Cases may include rough terrain preventing closer measurement, addition/removal of significant source to receiver shielding caused by moving closer, and meteorological conditions where back calculation may not be accurate.

For this assessment, the measured  $L_{\text{amax}}$  has been used as a conservative estimate of  $L_{\text{A1},1\text{minute}}$ . The EPA accepts sleep disturbance analysis based on either the  $L_{\text{A1},1\text{minute}}$  or  $L_{\text{amax}}$  metrics, with the  $L_{\text{amax}}$  representing a more conservative assessment of site noise emissions.

Measurements taken directly at noise sensitive receivers confirmed that existing ambient noise levels were generally too high to determine a noise contribution from the site. Measurements were subsequently taken at three points on the boundaries of the site, where extraneous noise sources did not significantly contribute to the noise sample. The relevant measurement points are indicated in Table 1.1 (measurement points 1, 2 and 3).

The site noise contribution at each noise sensitive location was determined as per condition 7.1 of the NSW Environmental Protection Authority's (EPA) 20017 Noise Policy for Industry (Npfl) requirements, which states that:

Where direct measurement of noise at a compliance location is not practical because of poor signal-to-noise ratios (that is, extraneous noise is louder than the noise under investigation), or where access to the location has been denied or is unavailable, measurements at intermediate locations between the source and the receiver location, where signal-to-noise ratios are higher, may be a viable option.

Based on attended measurements conducted during the evening and night periods, noise contribution from the plant and equipment operating (refueling only) was not quantifiable over existing ambient noise levels at residential locations. Operations information from the client confirms that refueling is the only activity during evening and night. Therefore, for evening and night operations site noise contributions were determined using the site's boundary measurements. A sound pressure level (SPL) of  $L_{\text{aeq}}$  54 dB at 15 metres was confirmed for refueling activities. A conservative calculation method was adopted for evening and night operations, accounting only for distance between sources to receivers. No additional air absorption or shielding effects from terrain or building structures was incorporated.

### 3.3 Modifying factors

Based on a detailed review and analysis of noise measurement data, there was no evidence of low frequency noise, tonality or any other modifying factors as defined in the Npfl (EPA 2017) at any monitoring location; therefore, modifying factor penalties were not applicable. All measurements were evaluated for potential modifying factors in accordance with the Npfl. Specific methodology for assessment of each modifying factor is outlined in Fact Sheet C of the Npfl.

### 3.4 Instrumentation and personnel

Attended noise monitoring was conducted by Jared Blackburn. Qualifications, experience, and competence is in accordance with the Approved methods and supportive documentation is available upon request.

Equipment used to measure environmental noise levels is detailed in Table 3.1. Calibration certificates are provided in Appendix C.

**Table 3.1** Attended noise monitoring equipment

Item	Serial number	Calibration due date	Relevant standard
Brüel & Kjær Type 2250 sound level meter	3008201	12 July 2025	IEC 61672-1:2002
Svantek V36 calibrator	138019	01 August 2024	IEC 60942:2003

## 4 Results

### 4.1 Total measured noise levels and atmospheric conditions

Overall noise levels measured at each location during attended measurements are provided in Table 4.1.

**Table 4.1 Total measured noise levels – 5 March 2024 <sup>1</sup>**

Location	Start date and time	L <sub>amax</sub> dB	L <sub>A1</sub> dB	L <sub>A10</sub> dB	L <sub>aeq</sub> dB	L <sub>A50</sub> dB	L <sub>A90</sub> dB	L <sub>amin</sub> dB
2 <sup>2</sup>	5/03/2024 10:20	76	70	67	64	63	49	44
1 <sup>2</sup>	5/03/2024 10:41	72	64	58	55	53	50	48
3 <sup>2</sup>	5/03/2024 11:00	63	57	53	50	49	46	44
4 <sup>3</sup>	5/03/2024 11:19	69	61	53	51	49	47	45
5 <sup>3</sup>	5/03/2024 12:01	69	59	52	51	49	48	47
6 <sup>3</sup>	5/03/2024 12:31	59	51	49	47	46	44	51
7 <sup>3</sup>	5/03/2024 13:04	76	69	60	58	51	48	45
7 <sup>3</sup>	5/03/2024 19:47	71	66	57	55	51	48	47
6 <sup>3</sup>	5/03/2024 20:22	65	48	46	45	44	43	41
5 <sup>3</sup>	5/03/2024 20:45	71	55	50	48	45	43	42
4 <sup>3</sup>	5/03/2024 21:10	62	49	46	45	44	43	41
4 <sup>3</sup>	5/03/2024 22:00	70	49	45	44	42	41	39
5 <sup>3</sup>	5/03/2024 22:24	68	49	45	43	41	40	38
6 <sup>3</sup>	5/03/2024 22:48	67	47	42	41	40	38	36
7 <sup>3</sup>	5/03/2024 23:21	73	68	52	54	48	46	44

- Notes:
1. Levels in this table are not necessarily the result of activity at site.
  2. On-site measurement.
  3. Constant non site noise was present during measurement.

Atmospheric condition data measured by the operator during each measurement using a hand-held weather meter is shown in Table 4.2. The wind speed, direction and temperature were measured at approximately 1.5 metres above ground. Attended noise monitoring is not done during rain, hail, or wind speeds above 5 m/s at microphone height. This data was collected over a short duration of typically 5 minutes, however atmospheric conditions were observed to be relatively constant during the 15 minute noise sample.

**Table 4.2 Measured (hand held meter) atmospheric conditions – 5 March 2024**

Location	Start date and time	Temperature °C	Wind speed m/s	Wind direction ° Magnetic north <sup>1</sup>	Cloud cover 1/8s
2	5/03/2024 10:20	22	<0.5	-	3
1	5/03/2024 10:41	22	<0.5	-	4

**Table 4.2 Measured (hand held meter) atmospheric conditions – 5 March 2024**

Location	Start date and time	Temperature °C	Wind speed m/s	Wind direction ° Magnetic north <sup>1</sup>	Cloud cover 1/8s
3	5/03/2024 11:00	22	<0.5	-	4
4	5/03/2024 11:19	23	<0.5	-	4
5	5/03/2024 12:01	24	0.8	97	3
6	5/03/2024 12:31	25	1	127	3
7	5/03/2024 13:04	25	1.3	106	3
7	5/03/2024 19:47	23	2.1	50	0
6	5/03/2024 20:22	23	0.8	58	0
5	5/03/2024 20:45	22	0.6	57	0
4	5/03/2024 21:10	22	0.9	65	0
4	5/03/2024 22:00	22	1.4	47	0
5	5/03/2024 22:24	22	<0.5	-	0
6	5/03/2024 22:48	21	<0.5	-	0
7	5/03/2024 23:21	21	<0.5	-	0

Notes: 1. "-" indicates calm conditions at monitoring location.

## 4.2 Site only noise levels

### 4.2.1 Monitoring results

Table 4.3 provides measured site noise levels in the absence of other sources, where possible, and includes weather data from the Fort Denison AWS. Limits are applicable if weather conditions were within specified parameters during each measurement.

**Table 4.3 Site noise levels and limits – 5 March 2024**

Location	Start Date and Time	Wind		Stability Class	Limits apply? <sup>1</sup>	Limits, dB <sup>5</sup>			Measured site levels, dB <sup>5</sup>			Exceedances, dB <sup>1</sup>		
		Speed m/s	Direction <sup>3</sup>			L <sub>aeq,15minute</sub>	L <sub>Aeq, 9 hour</sub>	L <sub>Amax</sub>	L <sub>aeq,15minute</sub> <sup>2</sup>	L <sub>Aeq, 9 hour</sub>	L <sub>Amax</sub>	L <sub>Aeq,15minute</sub>	L <sub>Aeq, 9 hour</sub>	L <sub>Amax</sub>
4	5/03/2024 11:19	2.6	104	E	Y	54	N/A	N/A	47 <sup>4</sup>	N/A	N/A	Nil	-	-
5	5/03/2024 12:01	3.0	94	D	Y	36	N/A	N/A	IA	N/A	N/A	-	-	-
6	5/03/2024 12:31	3.0	94	E	Y	49	N/A	N/A	IA	N/A	N/A	-	-	-
7	5/03/2024 13:04	3.3	95	E	N	40	N/A	N/A	IA	N/A	N/A	-	-	-
7	5/03/2024 19:47	3.8	28	D	N	35	N/A	N/A	IA	N/A	N/A	-	-	-
6	5/03/2024 20:22	3.4	34	D	N	44	N/A	N/A	IA	N/A	N/A	-	-	-
5	5/03/2024 20:45	3.0	38	D	Y	35	N/A	N/A	IA	N/A	N/A	-	-	-
4	5/03/2024 21:10	3.0	38	D	Y	48	N/A	N/A	IA	N/A	N/A	-	-	-
4	5/03/2024 22:00	2.5	33	D	Y	48	45	59	IA	IA	IA	-	-	-
5	5/03/2024 22:24	1.7	29	E	Y	35	35	60	IA	IA	IA	-	-	-
6	5/03/2024 22:48	2.4	25	D	Y	44	41	54	IA	IA	IA	-	-	-
7	5/03/2024 23:21	2.4	22	D	Y	35	35	61	IA	IA	IA	-	-	-

- Notes:
1. Noise emission limits are applicable if weather conditions were with in parameters specified in Section 2.2.
  2. Site-only L<sub>Aeq,15minute</sub>, includes modifying factor penalties if applicable.
  3. Degrees magnetic north, “-” indicates calm conditions.
  4. NPfI methods deployed to obtain a site contribution (e.g. low pass filter).
  5. NA indicates there was no applicable criteria for measurement period.

## 4.2.2 Calculated site noise levels

Table 4.4 summarises the site noise contributions at the noise sensitive receivers calculated from site boundary measurements. All contributions are based on calculations from data captured at positions 1, 2 and 3 in Table 4.1. The total noise levels presented for these boundary locations are assumed to be generated by White Bay 6. This is a conservative assumption given that other extraneous noise sources were also observed during the noise measurements, and hence we have reported the calculations as ‘less than’ values. These boundary measurements are considered to be a typical 15 minute operational sample of site noise. Hence, the sample that produced the highest site contribution calculated at residences has been used. At all receivers, the calculated noise levels satisfy the limits specified in the EPL.

**Table 4.4** Calculated site noise levels and limits – 5 March 2024

Location	Period	Limits, dB <sup>4</sup>			Calculated site levels, dB <sup>4</sup>			Compliance <sup>4</sup>		
		L <sub>Aeq,15minute</sub>	L <sub>Aeq, 9hour</sub>	L <sub>Amax</sub>	L <sub>Aeq,15minute</sub> <sup>2</sup>	L <sub>Aeq, 9hour</sub>	L <sub>Amax</sub>	L <sub>Aeq,15minute</sub>	L <sub>Aeq, 9hour</sub>	L <sub>Amax</sub>
4 <sup>2</sup>	Day	54	N/A	N/A	<48	N/A	N/A	Yes	N/A	N/A
5 <sup>2</sup>	Day	36	N/A	N/A	<35	N/A	N/A	Yes	N/A	N/A
6 <sup>2</sup>	Day	49	N/A	N/A	<45	N/A	N/A	Yes	N/A	N/A
7 <sup>2</sup>	Day	40	N/A	N/A	<36	N/A	N/A	Yes	N/A	N/A
7 <sup>3</sup>	Evening <sup>1</sup>	35	N/A	N/A	<25	N/A	N/A	Yes	N/A	N/A
6 <sup>3</sup>	Evening <sup>1</sup>	44	N/A	N/A	<30	N/A	N/A	Yes	N/A	N/A
5 <sup>3</sup>	Evening <sup>1</sup>	35	N/A	N/A	<26	N/A	N/A	Yes	N/A	N/A
4 <sup>3</sup>	Evening <sup>1</sup>	48	N/A	N/A	<34	N/A	N/A	Yes	N/A	N/A
4 <sup>3</sup>	Night <sup>1</sup>	48	45	59	<34	<34	34	Yes	Yes	Yes
5 <sup>3</sup>	Night <sup>1</sup>	35	35	60	<26	<26	26	Yes	Yes	Yes
6 <sup>3</sup>	Night <sup>1</sup>	44	41	54	<30	<30	30	Yes	Yes	Yes
7 <sup>3</sup>	Night <sup>1</sup>	35	35	61	<25	<25	25	Yes	Yes	Yes

Notes: 1. Only refuelling activities included during evening and night-time periods.

2. Noise contribution was determined utilising activity sound pressure levels of day operations on site and applying distance attenuation.
3. Noise contribution was determined utilising activity sound power measurements of refuelling activities on site and distance to receiver locations.
4. NA indicates there was no applicable criteria for measurement period.

## 5 Summary

EMM was engaged by Sydney Harbour Boat Storage to conduct an annual noise survey of the marine storage and refuelling facility (the site) operations at Berth 6, White Bay, NSW. The survey purpose was to quantify the acoustic environment and compare site noise levels against the EPL 20144 limits.

Attended environmental noise monitoring described in this report was done during the day/evening/night period(s) of 5 March 2024 at four monitoring locations offsite and three locations onsite or site boundary.

The methods described in Section 7.1 of the NPfI have been adopted to calculate the site noise contribution at residential locations listed in the EPL where direct measurement was not practical.

The measured and calculated site noise contributions satisfied the EPL noise limits at all residences, for all periods.



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# Appendix A

## Noise perception and examples

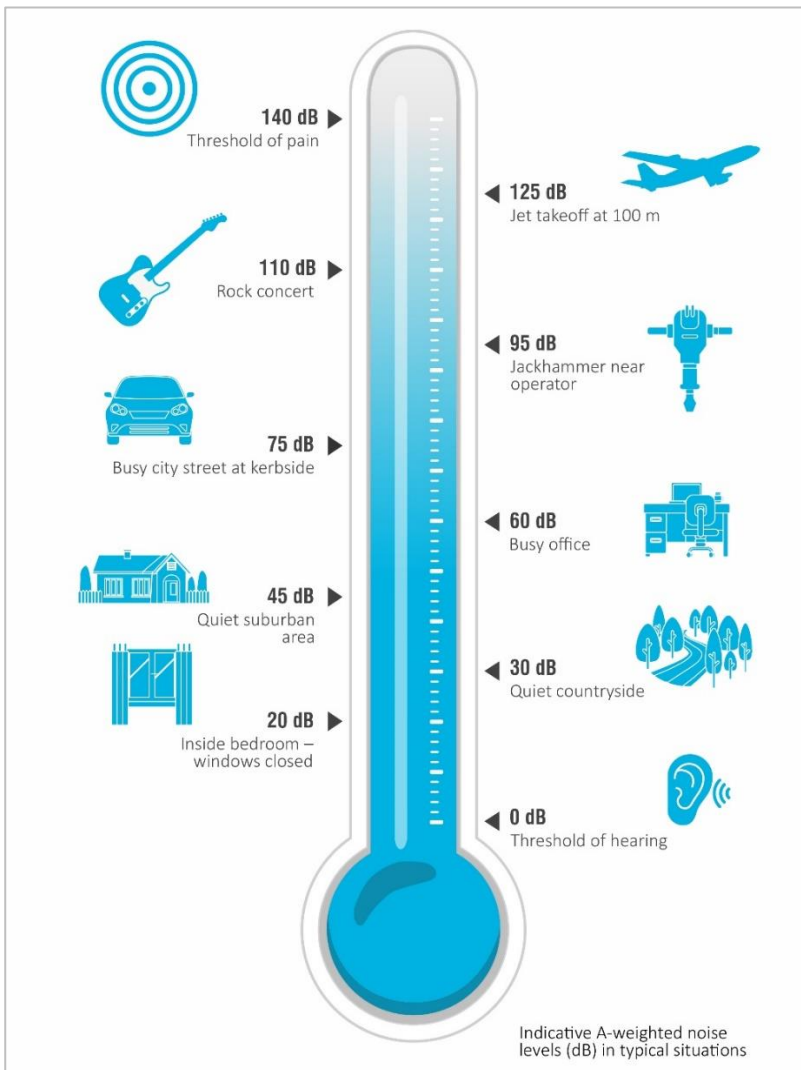
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## A.1 Noise levels

Table A.1 gives an indication as to how an average person perceives changes in noise level. Examples of common noise levels are provided in Figure A.1.

**Table A.1** Perceived change in noise

Change in sound pressure level (dB)	Perceived change in noise
up to 2	Not perceptible
3	Just perceptible
5	Noticeable difference
10	Twice (or half) as loud
15	Large change
20	Four times (or quarter) as loud



**Figure A.1** Common noise levels

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# Appendix B

## Regulator documents

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# Environment Protection Licence

Licence - 20144



### A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.2 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

**Noise/Weather**

EPA identification no.	Type of monitoring point	Location description
------------------------	--------------------------	----------------------

# Environment Protection Licence

Licence - 20144

1	Noise monitoring
2	Noise monitoring
3	Noise monitoring
4	Noise monitoring

## 3 Limit Conditions

### L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

### L2 Waste

- L2.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Waste	Any waste received on site that is below licensing thresholds in Schedule 1 of the Protection of the Environment Operations Act, as in force from time to time	-	NA
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014.	As specified in each particular resource recovery exemption	NA

### L3 Noise limits

- L3.1 The use of any part of the premises including vessel refuelling and other activities, and the operation of

# Environment Protection Licence

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any plant, machinery or other equipment on the site must not exceed the sound level pressure (noise) limits presented in the Tables below.

Note: The limits represent the sound pressure level (noise) contribution, at the nominated receiver locations in the Table.

## L3.2 Day Noise Limits - During operation of the facility

Location	LAeq(15 minute)
1 Grafton Street, Balmain	54
Datchett Street, Balmain East	49
33 Adolphus Street, Balmain	36
2 Point Street, Pyrmont	40

## L3.3 Evening Noise Limits - During operation of the facility

Location	LAeq(15 minute)
1 Grafton Street, Balmain	48
Datchett Street, Balmain East	44
33 Adolphus Street, Balmain	35
2 Point Street, Pyrmont	35

## L3.4 Night Noise Limits - During operation of the facility

Location	LAeq(15 minute)	LAeq(9 hours)	LA1(1 minute)
1 Grafton Street, Balmain	48	45	59*
Datchett Street, Balmain East	44	41	54*
33 Adolphus Street, Balmain	35	35	60
2 Point Street, Pyrmont	35	35	61

Note: \* The sleep disturbance limits do not apply to trucks whilst engaged in movements on the access road to enter or leave the site.

L3.5 Noise from the premises is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary, to determine compliance with the noise level limits in this condition unless otherwise stated.

L3.6 Noise from the premises is to be measured at 1m from the dwelling facade to determine compliance with the LA1(1 minute) noise level in this condition.

# Environment Protection Licence

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- L3.7 Where it can be demonstrated that direct measurement of noise from the premises is impractical the EPA may accept alternative means of determining compliance (see Chapter 11 of the *NSW Industrial Noise Policy*).
- L3.8 The modification factors presented in Section 4 of the *NSW Industrial Noise Policy* shall also be applied to the measured noise levels where practicable.
- L3.9 The noise emission limits identified in this condition apply under meteorological conditions of wind speed of up to 3 metres per second at 10 metres above ground level, and temperature inversion conditions.

## L4 Potentially offensive odour

- L4.1 No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997.
- L4.2 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

## 4 Operating Conditions

### O1 Activities must be carried out in a competent manner

- O1.1 Licensed activities must be carried out in a competent manner.  
This includes:
- the processing, handling, movement and storage of materials and substances used to carry out the activity; and
  - the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

### O2 Maintenance of plant and equipment

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
- must be maintained in a proper and efficient condition; and
  - must be operated in a proper and efficient manner.

### O3 Dust

- O3.1 Where neither a concentration nor rate for emission of air impurities has been prescribed, for the purposes of Section 128 of the Act, all operations and activities occurring at the premises must be conducted in a manner that will minimise airborne impurities at the boundary of the premises.

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# Appendix C

## Calibration certificates

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**Sound Level Meter  
IEC 61672-3:2013**

**Calibration Certificate**

Calibration Number C23471

<b>Client Details</b>	EMM Consulting Ground Floor Suite 01, 20 Chandos Street
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<b>Equipment Tested/ Model Number :</b>	Type 2250
<b>Instrument Serial Number :</b>	3008201
<b>Microphone Serial Number :</b>	2888134
<b>Pre-amplifier Serial Number :</b>	16037
<b>Firmware Version :</b>	N/A

<b>Pre-Test Atmospheric Conditions</b>	<b>Post-Test Atmospheric Conditions</b>
<b>Ambient Temperature :</b> 23.1 °C	<b>Ambient Temperature :</b> 24.3 °C
<b>Relative Humidity :</b> 44 %	<b>Relative Humidity :</b> 44.1 %
<b>Barometric Pressure :</b> 101.6 kPa	<b>Barometric Pressure :</b> 101.3 kPa

<b>Calibration Technician :</b> Max Moore	<b>Secondary Check:</b> Rhys Gravelle
<b>Calibration Date :</b> 12 Jul 2023	<b>Report Issue Date :</b> 17 Jul 2023

**Approved Signatory :** 

Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	Pass	17: Level linearity incl. the level range control	N/A
13: Electrical Sig. tests of frequency weightings	Pass	18: Toneburst response	Pass
14: Frequency and time weightings at 1 kHz	Pass	19: C Weighted Peak Sound Level	Pass
15: Long Term Stability	Pass	20: Overload Indication	Pass
16: Level linearity on the reference level range	Pass	21: High Level Stability	Pass

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation test performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2013.

Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.13 dB	Temperature	±0.1 °C
1kHz	±0.13 dB	Relative Humidity	±1.9 %
8kHz	±0.14 dB	Barometric Pressure	±0.014 kPa
Electrical Tests	±0.13 dB		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.



This calibration certificate is to be read in conjunction with the calibration test report.

Acoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.  
Accredited for compliance with ISO/IEC 17025 - Calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.



## Sound Level Meter IEC 61672-3:2013 Calibration Test Report

Calibration Number C23471

<b>Client Details</b>	EMM Consulting Ground Floor Suite 01, 20 Chandos Street
<b>Equipment Tested/ Model Number :</b>	Type 2250
<b>Instrument Serial Number :</b>	3008201
<b>Microphone Serial Number :</b>	2888134
<b>Pre-amplifier Serial Number :</b>	16037
<b>Firmware Version :</b>	N/A
<b>Pre-Test Atmospheric Conditions</b>	<b>Post-Test Atmospheric Conditions</b>
<b>Ambient Temperature :</b> 23.1 °C	<b>Ambient Temperature :</b> 24.3 °C
<b>Relative Humidity :</b> 44 %	<b>Relative Humidity :</b> 44.1 %
<b>Barometric Pressure :</b> 101.6 kPa	<b>Barometric Pressure :</b> 101.3 kPa
<b>Calibration Technician :</b> Max Moore	<b>Secondary Check:</b> Rhys Gravelle
<b>Calibration Date :</b> 12 Jul 2023	<b>Report Issue Date :</b> 17 Jul 2023

Approved Signatory :

Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	Pass	17: Level linearity incl. the level range control	N/A
13: Electrical Sig. tests of frequency weightings	Pass	18: Toneburst response	Pass
14: Frequency and time weightings at 1 kHz	Pass	19: C Weighted Peak Sound Level	Pass
15: Long Term Stability	Pass	20: Overload Indication	Pass
16: Level linearity on the reference level range	Pass	21: High Level Stability	Pass

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation test performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2013.

Uncertainties of Measurement -			
Acoustic Tests		Environmental Conditions	
125Hz	±0.13 dB	Temperature	±0.1 °C
1kHz	±0.13 dB	Relative Humidity	±1.9 %
8kHz	±0.14 dB	Barometric Pressure	±0.014 kPa
Electrical Tests	±0.13 dB		

*All uncertainties are derived at the 95% confidence level with a coverage factor of 2.*



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# CERTIFICATE OF CALIBRATION

CERTIFICATE No: **C36957**

EQUIPMENT TESTED : Sound Level Calibrator

**Manufacturer:** Svantek  
**Type No:** SV36      **Serial No:** 138019  
**Owner:** EMM Consulting  
Suite 01, 20 Chandos St  
St Leonards NSW 2065

**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	93.94 dB	999.97 Hz	0.63 %
Level2:	NA	N	113.97 dB	999.97 Hz	0.40 %
Uncertainty			±0.11 dB	±0.05%	±0.20 %
Uncertainty (at 95% c.l.) k=2					

**CONDITION OF TEST:**

**Ambient Pressure** 1012 hPa ±1 hPa      **Date of Receipt :** 28/07/2023  
**Temperature** 23 °C ±1° C      **Date of Calibration :** 01/08/2023  
**Relative Humidity** 40 % ±5%      **Date of Issue :** 01/08/2023

**Acu-Vib Test Procedure:** AVP02 (Calibrators)  
Test Method: AS IEC 60942 - 2017

**CHECKED BY:** .....  
**AUTHORISED SIGNATURE:** .....  
*Hein See*

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