



Monthly compliance noise monitoring report

Glebe Island / White Bay

Port Authority of New South Wales

May 2023



The Power of Commitment

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1. Introduction

GHD Pty Ltd (GHD) has been engaged by Port Authority of New South Wales (Port Authority) to undertake compliance noise monitoring, as required by the *Port Noise Policy (Port Authority, 2020)*.

This report provides the details of the compliance noise monitoring for all vessels at berth during May 2023, as determined using the noise monitoring system. A detailed description of the permanent noise monitoring system including a map of monitoring locations is provided in the Noise Monitoring Plan, available on Port Authority's website.

2. Noise monitoring details and vessel schedule

Client	Company details	Noise monitor name	Noise monitor location	Noise monitor details / settings	Noise monitor serial numbers	Monthly calibration variance
Port Authority of New South Wales	GHD Pty Ltd Member of the Association of Australasian Acoustical Consultants (AAAC) Lead staff are Members of the Australian Acoustical Society (AAS)	L01	Grafton Street, Balmain	Meter details Norsonic Nor145 Sound Level Meter with Nor1297 Noise Compass	14529640	Initial calibration level 92.6 dBA Min. deviation = -0.3 dB Max. deviation = 0.3 dB
		L02	Maintenance Building on White Bay		14529642	Initial calibration level 91.5 dBA Min. deviation = 0.3 dB Max. deviation = 0.3 dB
		L03	Adjacent to White Bay 2	Meter settings A-weighted Fast time response 15 minute intervals	14529643	Initial calibration level 91.7 dBA Min. deviation = 0.2 dB Max. deviation = 0.2 dB
		L04	Onsite at Glebe Island		14529644	Initial calibration level 92.3 dBA Min. deviation = -0.1 dB Max. deviation = -0.0 dB
Vessel name	Arrival date and time		Departure date and time		Berth location	Applicable noise monitoring location/s
Bulk vessels						
CSL Reliance	May 2, 2023 / 19:46		May 5, 2023 / 20:00		GLB7	L03
Wyuna	May 6, 2023 / 10:45		May 10, 2023 / 11:21		GLB8	L03
Pioneer	May 22, 2023 / 12:43		May 24, 2023 / 18:56		GLB7	L03

Vessel name	Arrival date and time	Departure date and time	Berth location	Applicable noise monitoring location/s
Cruise vessels				
Pacific Adventure	May 12, 2023 / 06:40	May 12, 2023 / 16:32	WBCT	L01
Pacific Adventure	May 15, 2023 / 08:04	May 12, 2023 / 19:34	WBCT	L01
Pacific Adventure	May 27, 2023 / 06:40	May 12, 2023 / 15:57	WBCT	L01

3. Compliance summary

3.1 Bulk vessels

Vessel	Dates at berth	Monitor location	Vessel Noise Level, dBA (inclusive of any modifying factor penalties)			Vessel Noise Trigger Levels, dBA			Compliance ¹	
			Day ² L _{Aeq} (15 hr)	Night ³ L _{Aeq} (1 hr)	Night ³ L _{Amax}	Day ² L _{Aeq} (15 hr)	Night ³ L _{Aeq} (1 hr)	Night ³ L _{Amax}	Day	Night
CSL Reliance	May 2 – May 5	L03	53	50	65	60	55	65	Yes	Yes
Wyuna	May 6 – May 10	L03	53	51	58	60	55	65	Yes	Yes
Pioneer	May 22 – May 24	L03	53	53	58	60	55	65	Yes	Yes

Note: 1) If non-compliance is detected, a detailed investigation of the results will be undertaken and reported separately if required

Note: 2) Daytime period (7 am to 10 pm) – 15 hour logarithmic average

Note: 3) Night-time (10 pm to 7 am) – 9 hour logarithmic average

3.2 Cruise vessels

Vessel	Dates at berth	Monitor location	Vessel Noise Level, dBA (inclusive of any modifying factor penalties)		Vessel Noise Trigger Levels, dBA		Compliance	
			Day ² L _{Aeq} (15 hr)	Night ³ L _{Aeq} (9 hr)	Day ² L _{Aeq} (15 hr)	Night ³ L _{Aeq} (9 hr)	Day ⁴	Night
Pacific Adventure	May 12	L01	59	-	N/A	58	N/A	-
Pacific Adventure	May 15	L01	58	-	N/A	58	N/A	-
Pacific Adventure	May 27	L01	58	-	N/A	58	N/A	-

Note: 1) If non-compliance is detected, a detailed investigation of the results will be undertaken and reported separately if required

Note: 2) Daytime period (7 am to 10 pm) – 15 hour logarithmic average

Note: 3) Night-time (10 pm to 7 am) – 9 hour logarithmic average

Note: 4) Port Authority provides attenuation to a defined area of residences where noise modelling indicates that current noise levels reach or exceed 55 dBA **at night** ('attenuation eligibility trigger'). Under the White Bay Cruise Terminal Noise Restriction Policy, cruise ship noise which causes further residences than those currently identified to exceed the attenuation eligibility trigger is considered to be Excessive Noise. Hence under the Noise Restriction Policy a day time trigger level does not apply. The area of residences currently offered attenuation (ie meeting the 'attenuation eligibility trigger') is based on a reference cruise vessel intrusive noise level of 58 dBA at the nearest residence, which sets the Vessel Noise Trigger Level for assessing compliance at night. Excessive noise is defined as "any noise including but not limited to engine, generator or ventilation noise which causes further residences than those currently identified to exceed the attenuation eligibility trigger."

4. Detailed results – bulk vessels

4.1 CSL Reliance – May 2 – May 5, 2023 (GLB7)

4.1.1 Daily noise monitoring results

Date	Time period ¹	Monitor location	Noise descriptor	Vessel noise level dBA ²	Tonal	LFN ³	Vessel Noise Trigger Levels, dBA	Compliance
May 2, 2023	Day	L03	L _{Aeq, 15 hour} ¹	49	No	Yes	60	Yes
	Night		L _{Aeq, 1 hour} ¹	50	No	Yes	55	Yes
			L _{Amax}	63	-	-	65	Yes
May 3, 2023	Day	L03	L _{Aeq, 15 hour} ¹	52	No	Yes	60	Yes
	Night		L _{Aeq, 1 hour} ¹	49	No	Yes	55	Yes
			L _{Amax}	65	-	-	65	Yes
May 4, 2023	Day	L03	L _{Aeq, 15 hour} ¹	53	No	Yes	60	Yes
	Night		L _{Aeq, 1 hour} ¹	50	No	Yes	55	Yes
			L _{Amax}	56	-	-	65	Yes
May 5, 2023	Day	L03	L _{Aeq, 15 hour} ¹	52	No	Yes	60	Yes
	Night		L _{Aeq, 1 hour} ¹	-	-	-	55	-
			L _{Amax}	-	-	-	65	-

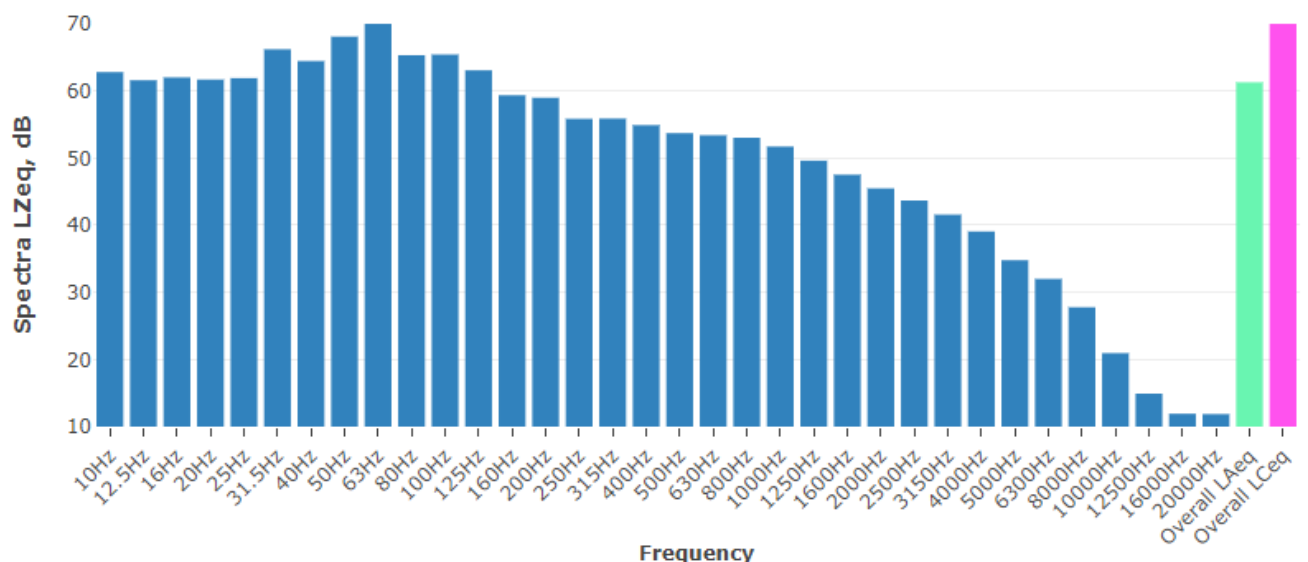
Notes

1) Daytime period (7 am to 10 pm) – 15 hours
Night-time period (10 pm to 7 am) – worst case 1 hour

2) Inclusive of any penalties for modifying factors

3) LFN = Low Frequency Noise

4.1.2 Additional information



Note: The overall frequency spectrum can be classified into low (≤ 160 Hz), medium (160-2000 Hz) and high (≥ 2000 Hz) frequencies. Where low frequency components are identified in the hourly spectra, the frequency bars are shaded in cyan. Where tones are identified in the hourly spectra, the frequency bars are shaded in red.

Figure 4.1 Typical vessel spectrum – noise level at L03

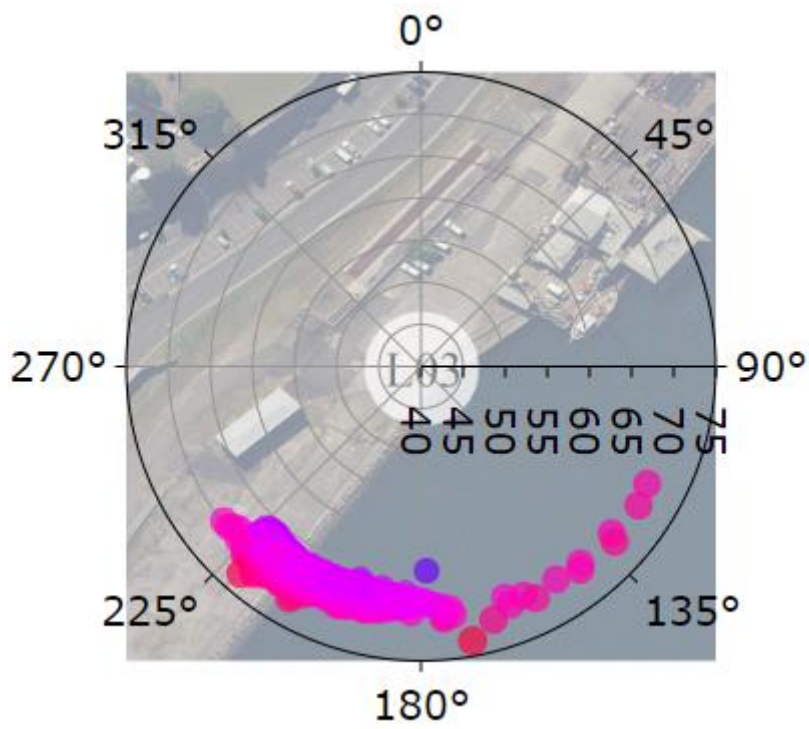


Figure 4.2 Typical vessel polar (directional) plot

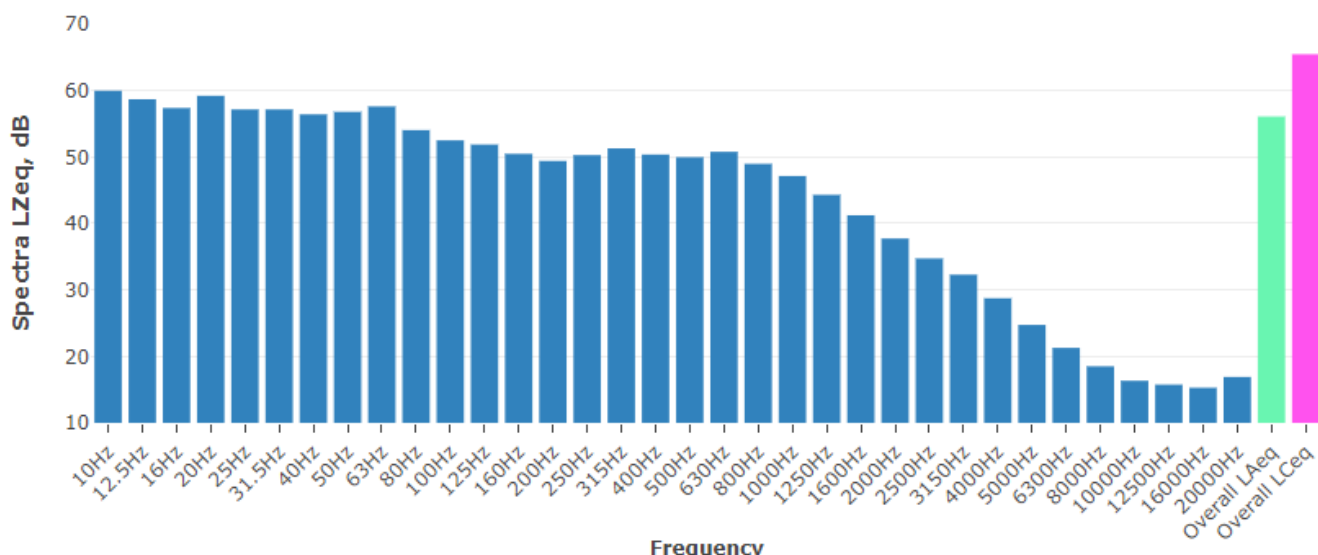
4.2 Wyuna – May 6 – May 10, 2023 (GLB8)

4.2.1 Daily noise monitoring results

Date	Time period ¹	Monitor location	Noise descriptor	Vessel noise level dBA ²	Tonal	LFN ³	Vessel Noise Trigger Levels, dBA	Compliance
May 6, 2023	Day	L03	L _{Aeq, 15 hour} ¹	53	No	No	60	Yes
	Night		L _{Aeq, 1 hour} ¹	50	No	Yes	55	Yes
			L _{Amax}	57	-	-	65	Yes
May 7, 2023	Day	L03	L _{Aeq, 15 hour} ¹	53	No	No	60	Yes
	Night		L _{Aeq, 1 hour} ¹	50	No	Yes	55	Yes
			L _{Amax}	56	-	-	65	Yes
May 8, 2023	Day	L03	L _{Aeq, 15 hour} ¹	53	No	Yes	60	Yes
	Night		L _{Aeq, 1 hour} ¹	51	No	No	55	Yes
			L _{Amax}	57	-	-	65	Yes
May 9, 2023	Day	L03	L _{Aeq, 15 hour} ¹	52	No	No	60	Yes
	Night		L _{Aeq, 1 hour} ¹	51	No	No	55	Yes
			L _{Amax}	58	-	-	65	Yes
May 10, 2023	Day	L03	L _{Aeq, 15 hour} ¹	53	No	Yes	60	Yes
	Night		L _{Aeq, 1 hour} ¹	-	-	-	55	-
			L _{Amax}	-	-	-	65	-

Notes

- Daytime period (7 am to 10 pm) – 15 hours
Night-time period (10 pm to 7 am) – worst case 1 hour
- Inclusive of any penalties for modifying factors
- LFN = Low Frequency Noise



Note: The overall frequency spectrum can be classified into low (≤ 160 Hz), medium (160-2000 Hz) and high (≥ 2000 Hz) frequencies. Where low frequency components are identified in the hourly spectra, the frequency bars are shaded in cyan. Where tones are identified in the hourly spectra, the frequency bars are shaded in red.

Figure 4.3 Typical vessel spectrum – noise level at L03

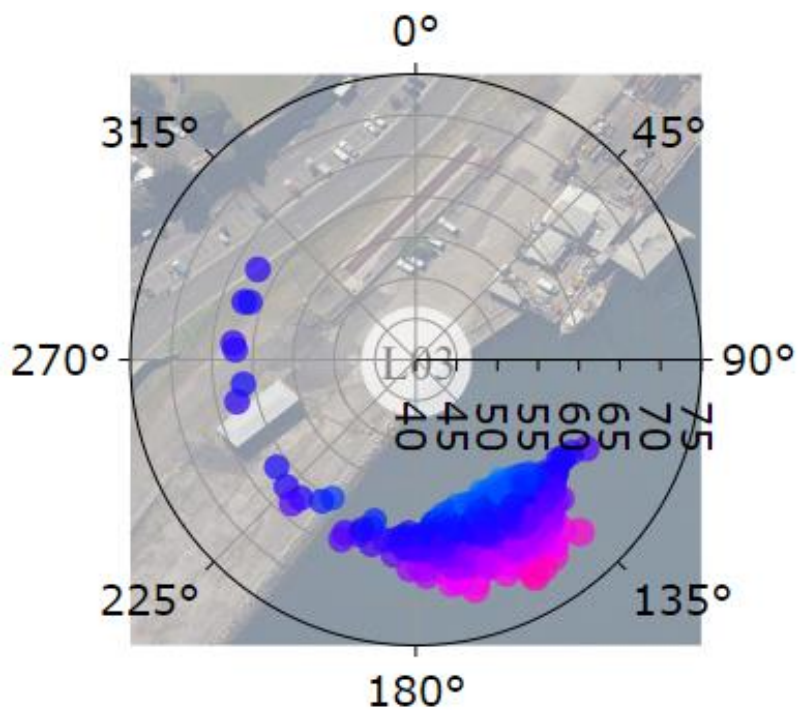


Figure 4.4 Typical vessel polar (directional) plot

4.3 Pioneer – May 22 – May 24, 2023 (GLB7)

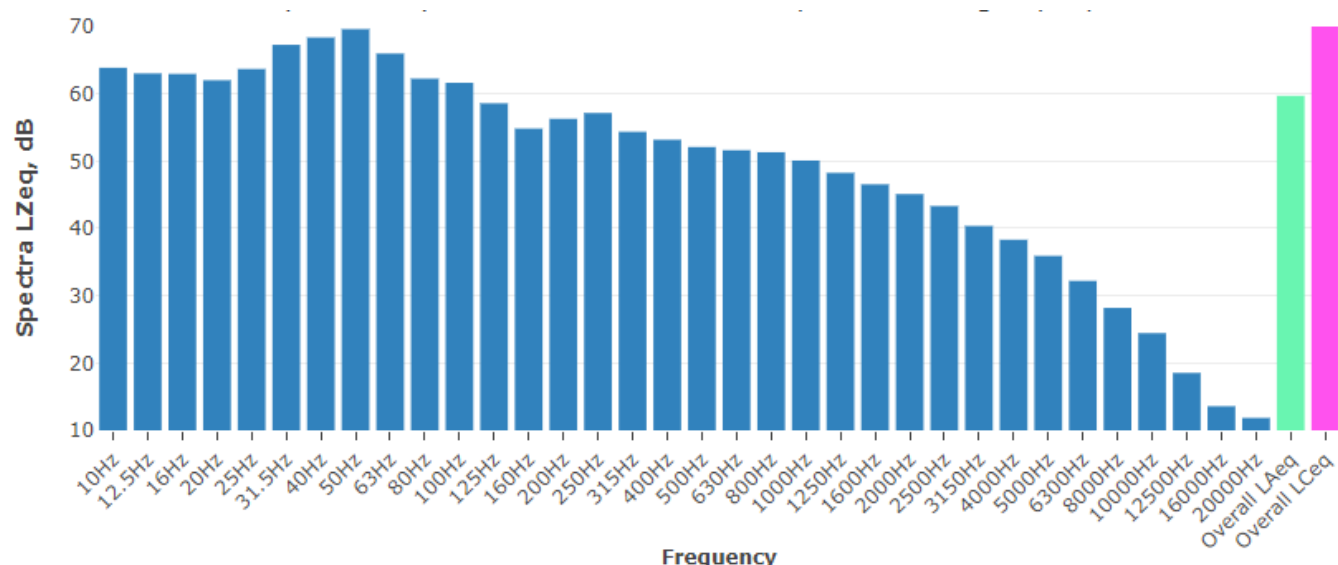
4.3.1 Daily noise monitoring results

Date	Time period ¹	Monitor location	Noise descriptor	Vessel noise level dBA ²	Tonal	LFN ³	Vessel Noise Trigger Levels, dBA	Compliance
May 22 2023	Day	L03	L _{Aeq} , 15 hour ¹	53	No	Yes ⁴	60	Yes
	Night		L _{Aeq} , 1 hour ¹	53	No	No	55	Yes
			L _{Amax}	56	-	-	65	Yes
May 23 2023	Day	L03	L _{Aeq} , 15 hour ¹	53	No	No	60	Yes
	Night		L _{Aeq} , 1 hour ¹	53	No	No	55	Yes
			L _{Amax}	58	-	-	65	Yes
May 24 2023	Day	L03	L _{Aeq} , 15 hour ¹	53	No	Yes ⁴	60	Yes
	Night		L _{Aeq} , 1 hour ¹	-	-	-	55	-
			L _{Amax}	-	-	-	65	-

Notes

- Daytime period (7 am to 10 pm) – 15 hours
Night-time period (10 pm to 7 am) – worst case 1 hour
- Inclusive of any penalties for modifying factors
- LFN = Low Frequency Noise
- Pioneer we shown to have LFN during only the first and/or last hour of the stay, this is likely due to the tug operations

4.3.2 Additional information



Note: The overall frequency spectrum can be classified into low (≤ 160 Hz), medium (160-2000 Hz) and high (≥ 2000 Hz) frequencies. Where low frequency components are identified in the hourly spectra, the frequency bars are shaded in cyan. Where tones are identified in the hourly spectra, the frequency bars are shaded in red.

Figure 4.5 Typical vessel spectrum – noise level at L03

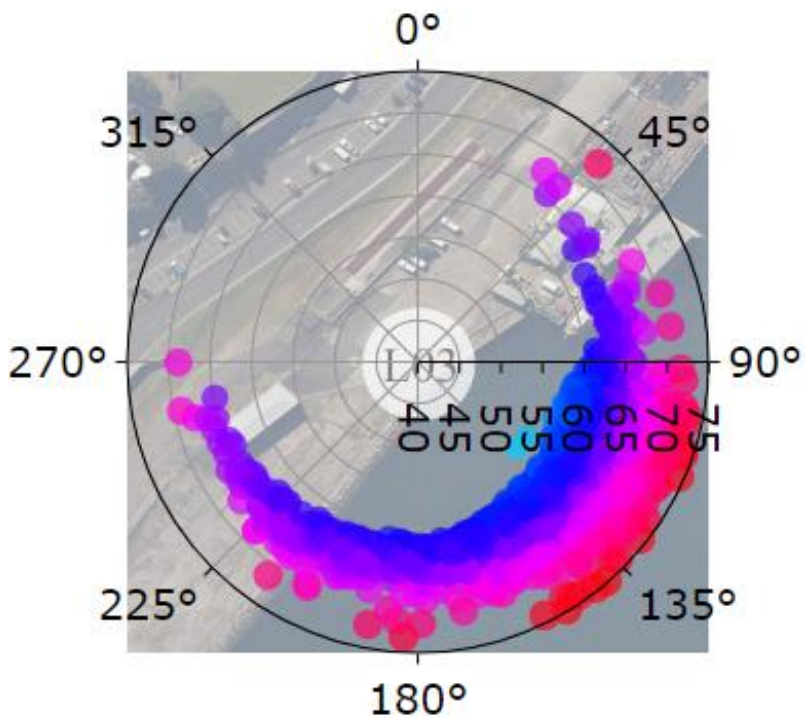


Figure 4.6 Typical vessel polar (directional) plot



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