



Monthly compliance noise monitoring report

Glebe Island / White Bay

Port Authority of New South Wales

July 2022



→ 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 July 2022, 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	L01	Grafton Street, Balmain	Meter details Norsonic Nor145 Sound Level Meter with Nor1297 Noise Compass	14529640	Initial calibration level 92.6 dBA Min. deviation = 0.2 dB Max. deviation = 0.3 dB
	Member of the Association of Australasian Acoustical Consultants (AAAC)	L02	Maintenance Building on White Bay		14529642	Initial calibration level 91.5 dBA Min. deviation = 0.1 dB Max. deviation = 0.3 dB
	Lead staff are Members of the Australian Acoustical Society (AAS)	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 = 0.1 dB Max. deviation = 0.2 dB
		L04	Onsite at Glebe Island		14529644	Initial calibration level 91.4 dBA Min. deviation = 0.3 dB Max. deviation = 0.4 dB
Vessel name	Arrival date and time	Departure date and time		Berth location	Applicable noise monitoring location/s	
Pioneer	July 7, 2022 / 11:28	July 11, 2022 / 17:00		GLB7	L03	
Kondili	July 16, 2022 / 20:57	Jul 19, 2022 / 14:00		GLB8	L03	
Mareeba	July 16, 2022 / 23:32	July 21, 2022 / 00:01		GLB8	L03	

3. Compliance summary

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
Pioneer	Jul 7 – Jul 11	L03	57	55	60	60	55	65	Yes	Yes
Kondili	Jul 16 – Jul 19	L03	53	50	61	60	55	65	Yes	Yes
Mareeba	Jul 16 – Jul 21	L03	58	53	61	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) – worst case 1 hour period

4. Detailed results

4.1 Pioneer – July 7 – July 11, 2022 (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
July 7, 2022	Day	L03	L _{Aeq} , 15 hour ¹	55	No	Yes	60	Yes
	Night		L _{Aeq} , 1 hour ¹	55	No	No	55	Yes
			L _{Amax}	59	-	-	65	Yes
July 8, 2022	Day	L03	L _{Aeq} , 15 hour ¹	56	No	No	60	Yes
	Night		L _{Aeq} , 1 hour ¹	54	No	No	55	Yes
			L _{Amax}	59	-	-	65	Yes
July 9, 2022	Day	L03	L _{Aeq} , 15 hour ¹	55	No	No	60	Yes
	Night		L _{Aeq} , 1 hour ¹	54	No	No	55	Yes
			L _{Amax}	60	-	-	65	Yes
July 10, 2022	Day	L03	L _{Aeq} , 15 hour ¹	55	No	No	60	Yes
	Night		L _{Aeq} , 1 hour ¹	55	No	No	55	Yes
			L _{Amax}	56	-	-	65	Yes
July 11, 2022	Day	L03	L _{Aeq} , 15 hour ¹	57	No	No	60	Yes
	Night		L _{Aeq} , 1 hour ¹	-	-	-	55	Yes
			L _{Amax}	-	-	-	65	Yes

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

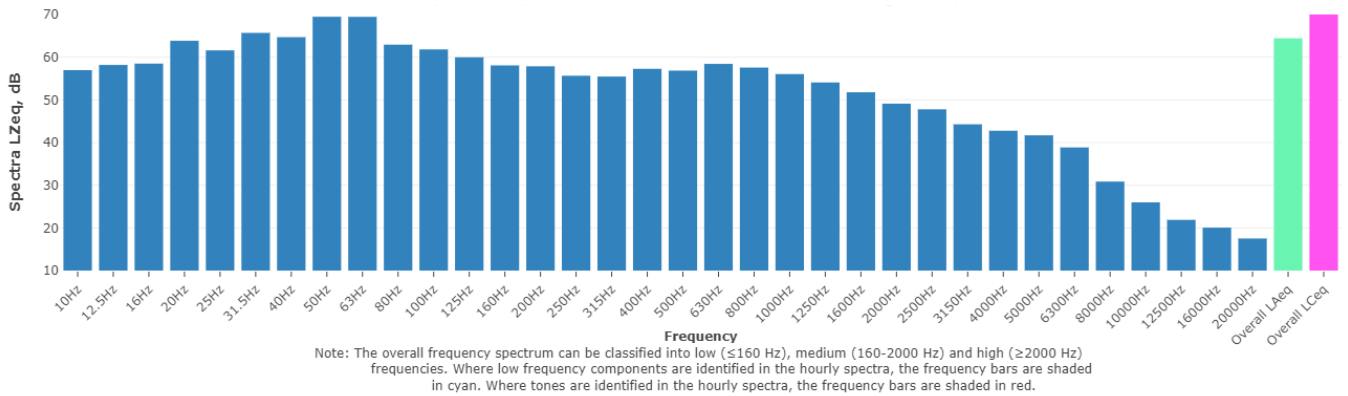


Figure 4.1 Typical vessel spectrum – noise level at L03

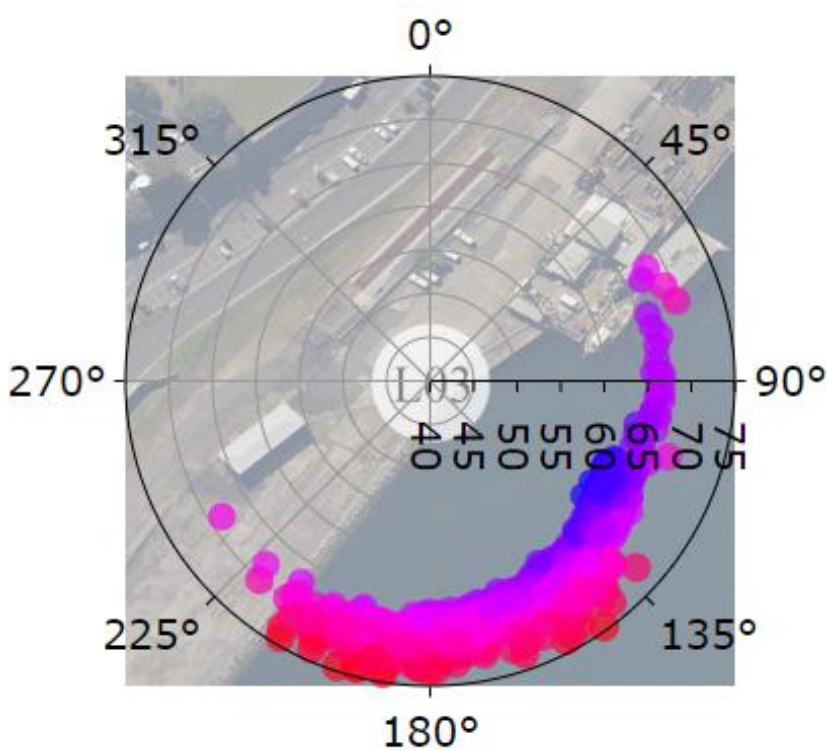


Figure 4.2 Typical vessel polar (directional) plot

4.2 Kondili – July 16 – July 19, 2022 (GLB8)

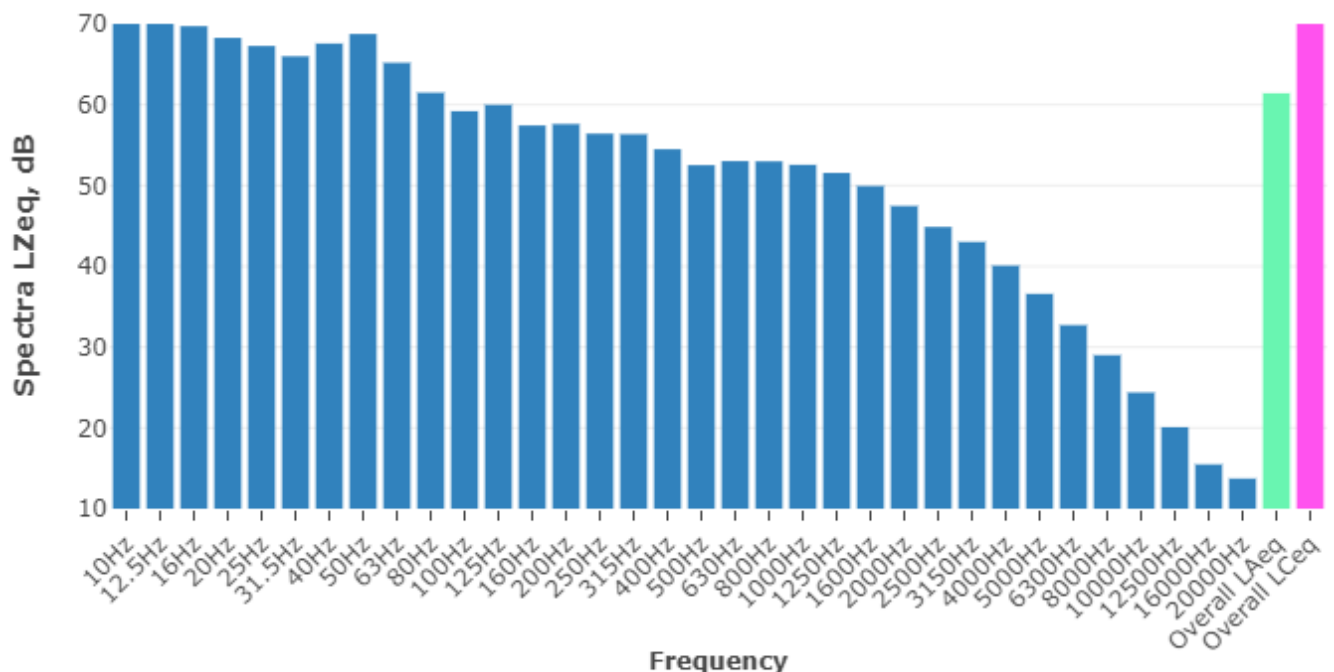
4.2.1 Daily noise monitoring results

Date	Time period ¹	Monitor location	Noise descriptor	Vessel noise level dBA ²	Tonal	LFN ³	Vessel Noise Trigger Levels, dBA	Compliance
July 16, 2022	Day	L03	Mareeba (GLB7) and Kondili (GLB8) were both present at this time. See discussion in Section 4.4 below. Noise was attributed to the Mareeba at this time					
	Night							
July 17, 2022	Day	L03						
	Night							
July 18, 2022	Day	L03						
	Night							
July 19, 2022	Day	L03						
	Night							

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

4.2.2 Additional information



Note: The overall frequency spectrum can be classified into low (≤ 160 Hz), medium (160-2000 Hz) and high (≥ 2 kHz) 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

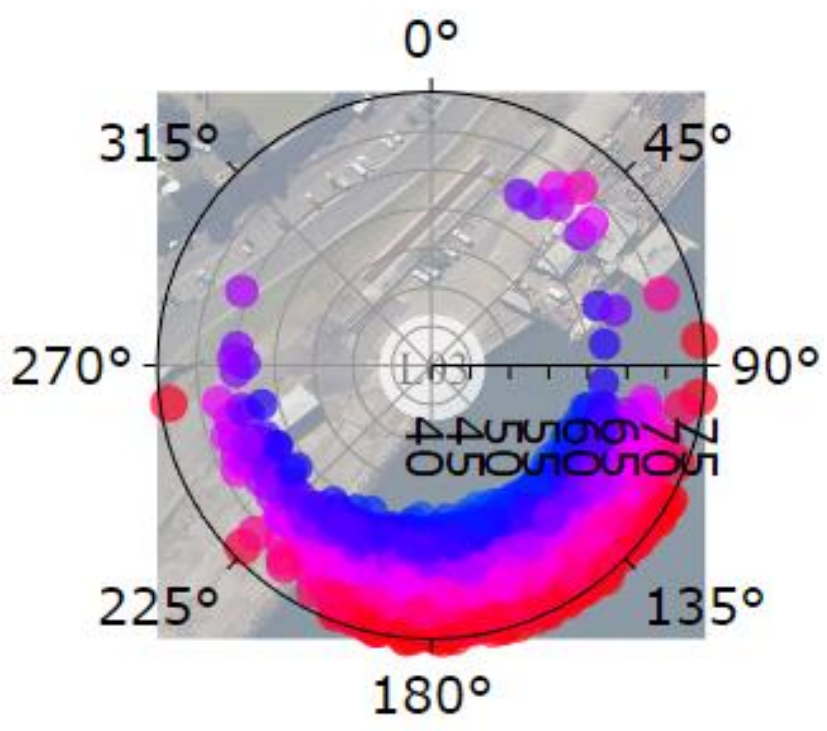


Figure 4.4 Typical vessel polar (directional) plot

4.3 Mareeba – July 16 – Jul 20, 2022 (GLB7)

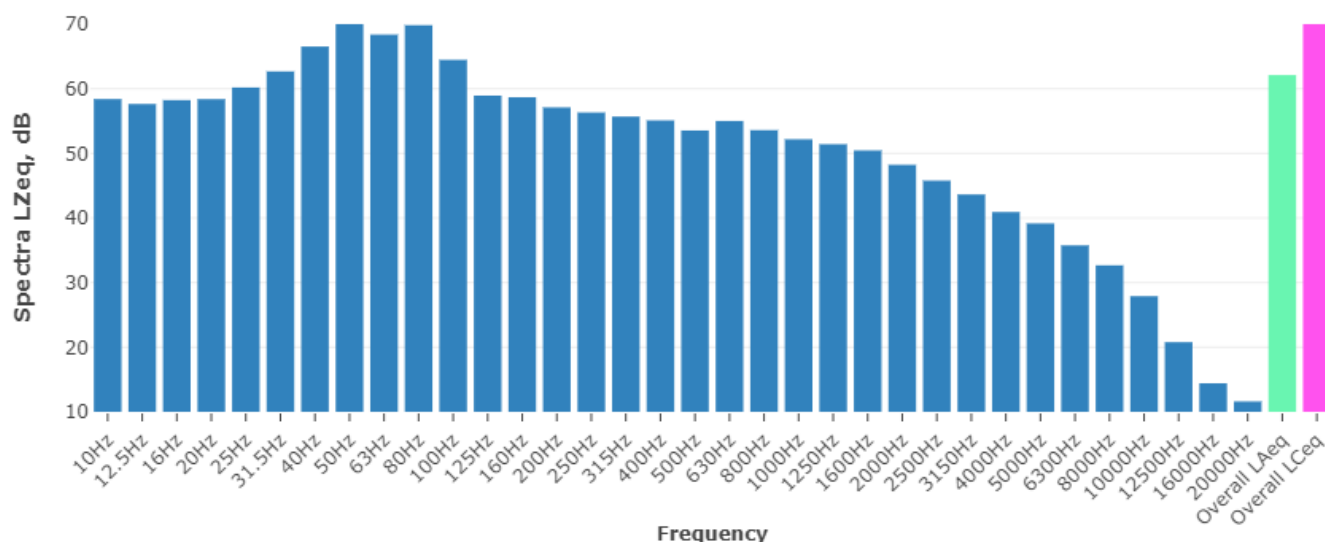
4.3.1 Daily noise monitoring results

Date	Time period ¹	Monitor location	Noise descriptor	Vessel noise level dBA ²	Tonal	LFN ³	Vessel Noise Trigger Levels, dBA	Compliance						
July 16, 2022 ⁴	Day	L03	Mareeba (GLB7) and Kondili (GLB8) were both present at this time. See discussion in Section 4.4 below. Noise was attributed to the Mareeba at this time											
	Night													
July 17, 2022 ⁴	Day	L03												
	Night													
July 18, 2022 ⁴	Day	L03												
	Night													
July 19, 2022	Day	L03							L _{Aeq} , 1 hour ¹	53	No	No	55	Yes
	Night								L _{Amax}	57	-	-	65	Yes
July 20, 2022	Day	L03							L _{Aeq} , 15 hour ¹	58 ⁴	No	No	65	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
- Between 10 pm and 12 am, there was high levels of extraneous noise (66 dBA) influencing the measured levels. Having reviewed the data, it is clear that this is not attributable to the vessel, therefore these results have been excluded

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

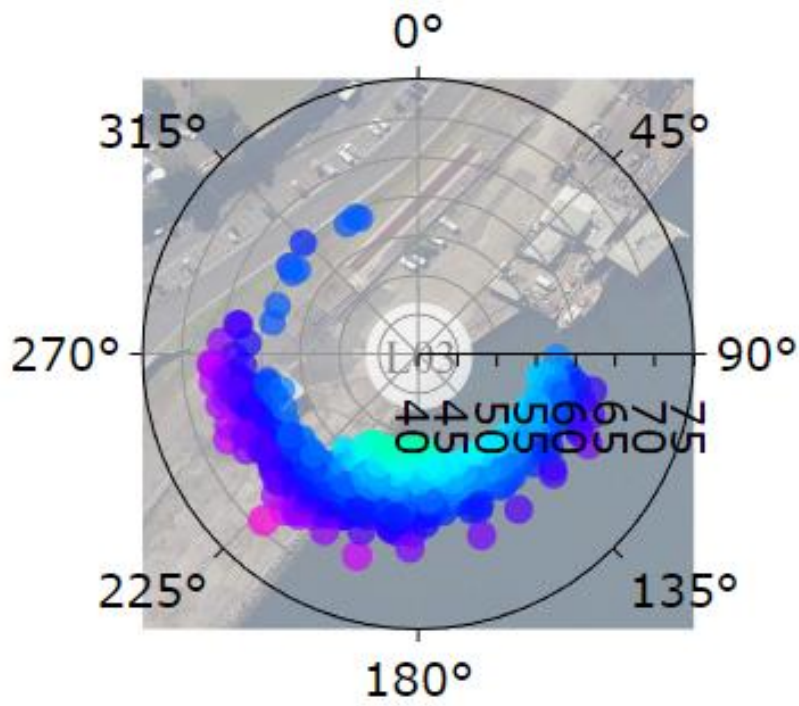


Figure 4.6 Typical vessel polar (directional) plot

4.4 Discussion regarding Mareeba and Kondili

Between July 16 and July 19 2022, the Mareeba (GLB7) and Kondili (GLB8) were simultaneously at berth. During this period, the Kondili vessel location was not being recorded by the vessel therefore the noise monitoring system was not able to identify whether the Kondili was berthed. All measured noise levels during this period were attributed to the Mareeba. The noise monitoring system indicated that there was a potential exceedance of the Vessel Noise Trigger Levels, therefore a detailed analysis was undertaken to determine the contribution from each vessel.

A review of the data was undertaken from this period, along with previously measured data. The contribution of each vessel has been estimated based on the following:

- Analysis of the measured noise levels from historical visits of both vessel
- Analysis of the measured noise levels between 16 July and 19 July 2022 when both the Mareeba and Kondili were berthed.

The estimated contributions are as follows:

Vessel	Assessment period	Estimated contribution, dBA
Mareeba	Day	53
	Night	50
Kondili	Day	51
	Night	52



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