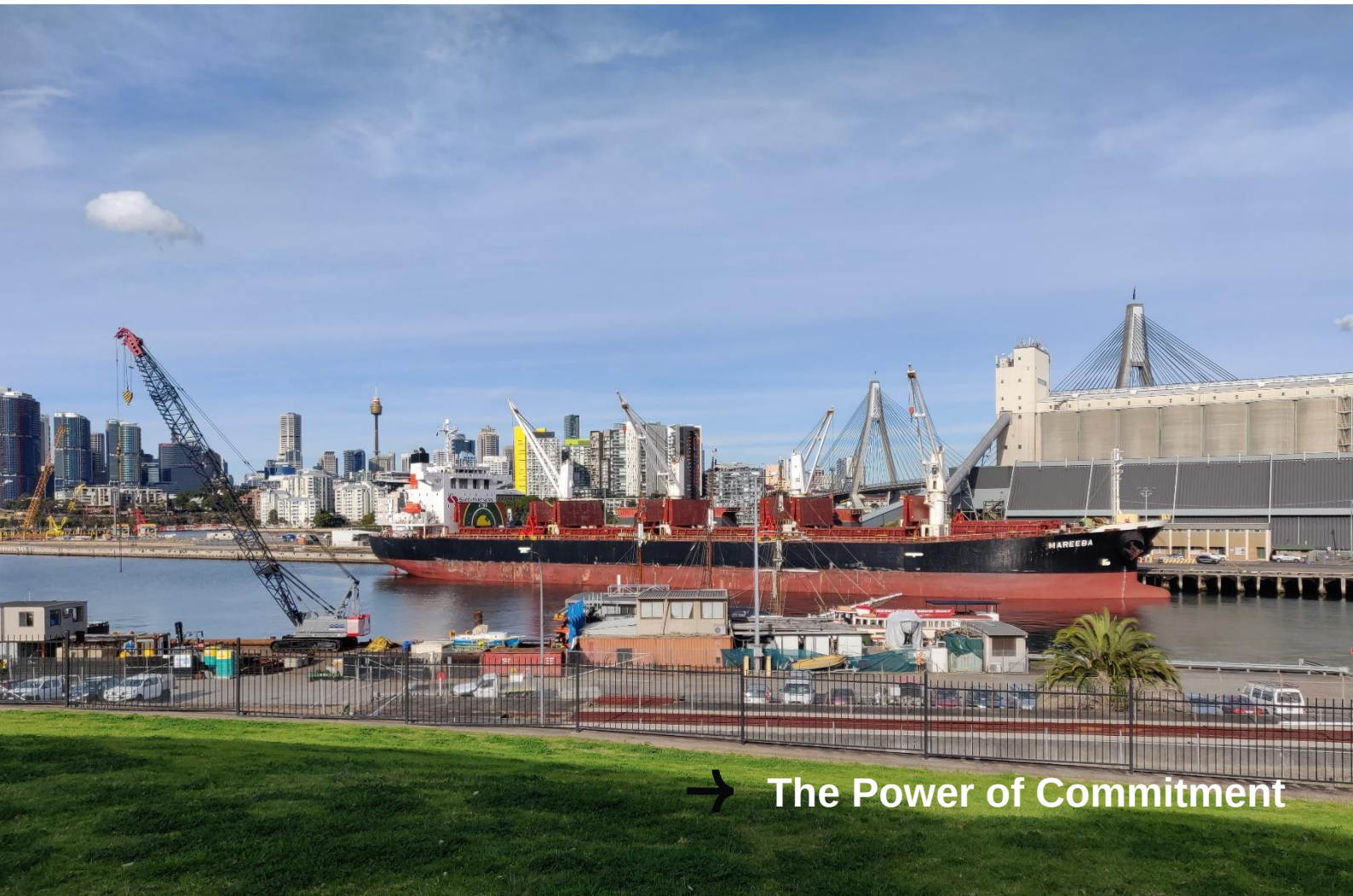
Monthly compliance noise monitoring report

Glebe Island / White Bay

Port Authority of New South Wales

April 2025



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 April 2025, 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 **Meter settings** A-weighted Fast time response 15 minute intervals	14529646	**Initial calibration level 90.7 dBA** Min. deviation = 0.1 dB Max. deviation = 0.2 dB
		L02	Maintenance Building on White Bay		14529643	**Initial calibration level 91.9 dBA** Min. deviation = 0.3 dB Max. deviation = 0.3 dB
		L03	Adjacent to White Bay 2		14529645	**Initial calibration level 92.5 dBA** Min. deviation = 0.3 dB Max. deviation = 0.4 dB
		L04	Onsite at Glebe Island		14529640	**Initial calibration level 93.9 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				
Akuna	April 6, 2025 / 03:56	April 9, 2025 / 07:56	GLB8	L03
Elanora	April 9, 2025 / 13:57	April 12, 2025 / 06:56	GLB7	L03

Vessel name	Arrival date and time	Departure date and time	Berth location	Applicable noise monitoring location/s
Luga	April 23, 2025 / 04:10	April 25, 2025 / 19:55	GLB8	L03
Cruise vessel				
Carnival Adventure	April 11, 2025 / 05:00	April 11, 2025 / 16:10	WCBT	L01

2.1 Compliance summary

2.2 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 L_{Amax}	Day[2] $L_{Aeq(15\ hr)}$	Night[3] $L_{Aeq(1\ hr)}$	Night L_{Amax}	Day[2] $L_{Aeq(15\ hr)}$	Night[3] $L_{Aeq(1\ hr)}$	Night L_{Amax}
Akuna	Apr 6 – Apr 9	L03	51	52	68[4]	60	55	65	Yes	Yes	No[4]
Elanora	Apr 9 – Apr 12	L03	56	53	61	60	55	65	Yes	Yes	Yes
Luga	Apr 23 – Apr 25	L03	54	54	59	60	55	65	Yes	Yes	Yes

Notes:
1) If non-compliance is detected, a detailed investigation of the results will be undertaken and reported separately if required
2) Daytime period (7 am to 10 pm) – 15 hour logarithmic average
3) Night-time (10 pm to 7 am) – loudest 1 hour period
4) A further review into the data determined that this maximum noise level was potentially due to vessel noise in the early hours of the morning of April 8, 2025. Three maximum noise level events have been identified, occurring around 2:07am, 4:36am, and 4:43am, where the maximum levels measured where 67dB, 68dB, and 67dB respectively. One of these was identified as being from the vessel, being an apparent release of air pressure. The others could not be identified as being from the vessel.

2.3 Cruise 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] $L_{Aeq(9\ hr)}$	Day[2] $L_{Aeq(15\ hr)}$	Night[3] $L_{Aeq(9\ hr)}$	Day[4]	Night
Carnival Adventure	Apr 11	L01	58	55	N/A	58	N/A	Yes

Notes:

1) If non-compliance is detected, a detailed investigation of the results will be undertaken and reported separately if required
2) Daytime period (7 am to 10 pm) – 15 hour logarithmic average
3) Night-time (10 pm to 7 am) – 9 hour logarithmic average
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."

3. Detailed results – bulk vessels

3.1 Akuna (GLB8) – April 6 – April 9, 2025

3.1.1 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
April 5, 2025[4]	Day	L03	$L_{Aeq, 15\ hour}$[1]	-	-	-	60	-
	Night		$L_{Aeq, 1\ hour}$[1]	50	No	Yes	55	Yes
			L_{Amax}	60	-	-	65	Yes
April 6, 2025	Day	L03	$L_{Aeq, 15\ hour}$[1]	51[5]	No	Yes	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	52[5]	No	Yes	55	Yes
			L_{Amax}	58	-	-	65	Yes
April 7, 2025	Day	L03	$L_{Aeq, 15\ hour}$[1]	51[5]	No	Yes	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	47[5]	No	Yes	55	Yes
			L_{Amax}	57	-	-	65	Yes
April 8, 2025	Day	L03	$L_{Aeq, 15\ hour}$[1]	51	Yes	Yes	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	50	No	Yes	55	Yes
			L_{Amax}	68[6]	-	-	65	No[6]
April 9, 2025	Day	L03	$L_{Aeq, 15\ hour}$[1]	49	No	Yes	60	Yes
	Night		$L_{Aeq, 1\ hour}$[1]	-	-	-	-	-
			L_{Amax}	-	-	-	-	-

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

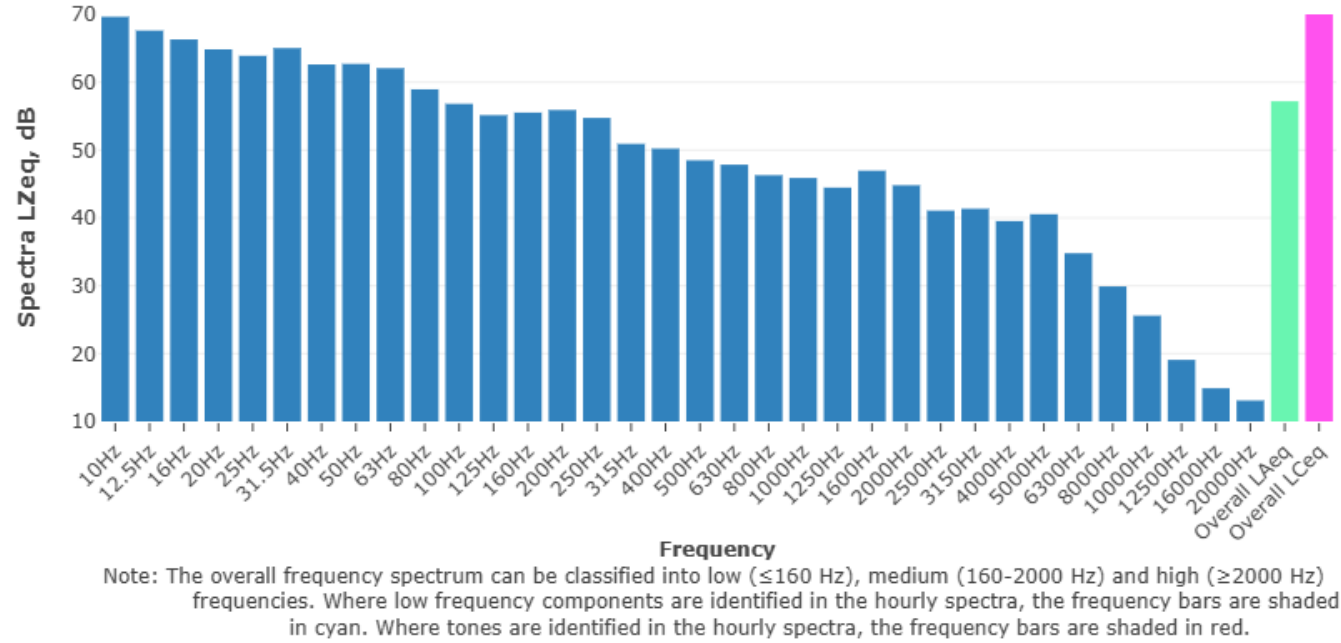
3) LFN = Low Frequency Noise

4) Note that the system classifies April 5 as the period from 7 am on April 5 to 7 am on April 6. The Akuna arrived at 3:56 am on April 6, and has been incorporated in the data for April 5

5) Measurements determined that noise was tonal at 6,300 Hz for periods during this nighttime period. A further review into the data determined that this was likely associated with extraneous noise in the area rather than the vessel. As such, no tonal correction has been applied.

6) A further review into the data determined that this maximum noise level was potentially due to vessel noise in the early hours of the morning of April 8, 2025. Three maximum noise level events over 65 dBA have been identified, occurring around 2:07am, 4:36am, and 4:43am, where the maximum levels measured where 67dB, 68dB, and 67dB respectively. One of these was identified as being from the vessel, being an apparent release of air pressure. The others could not be identified as being from the vessel.

3.1.2 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 3.1 Typical vessel spectrum – noise level at L03

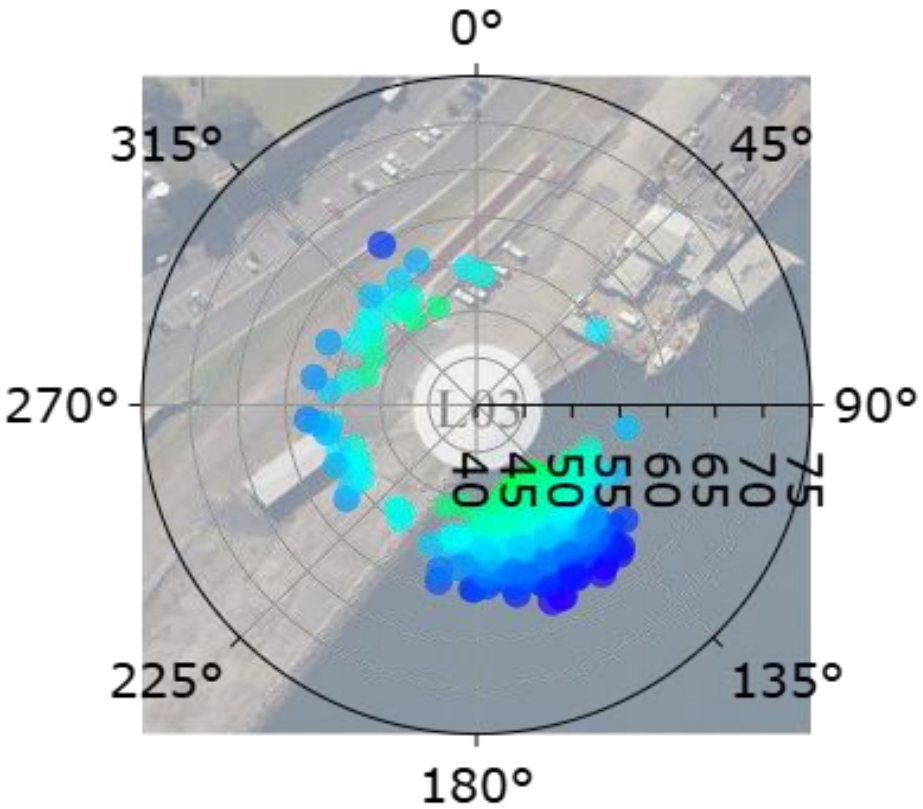


Figure 3.2 Typical vessel polar (directional) plot

3.2 Elanora (GLB7) – April 9 – April 12, 2025

3.2.1 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
April 9, 2025	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53[5]	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	Yes	55	Yes
			L_{Amax}	60	-	-	65	Yes
April 10, 2025	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53[5]	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	Yes	55	Yes
			L_{Amax}	57	-	-	65	Yes
April 11, 2025[4]	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	56	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	51[5]	No	Yes	55	Yes
			L_{Amax}	61	-	-	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) Note that the system classifies April 11 as the period from 7 am on April 11 to 7 am on April 12. The Elanora departed at 6:56 am on April 12, and has been incorporated in the data for April 11

5) Measurements determined that noise was tonal at 6,300 Hz for periods during this night time period. A further review into the data determined that this was likely associated with extraneous noise in the area rather than the vessel. As such, no tonal correction has been applied.

3.2.2 Additional Information

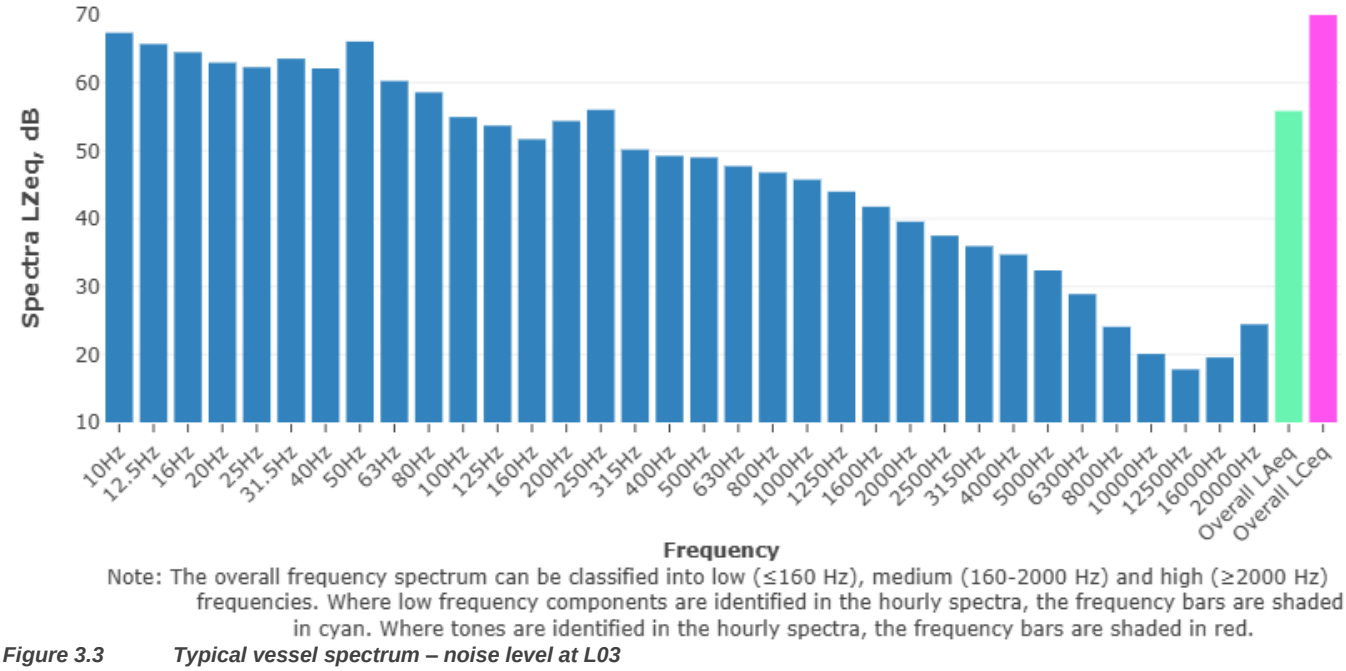


Figure 3.3 Typical vessel spectrum – noise level at L03

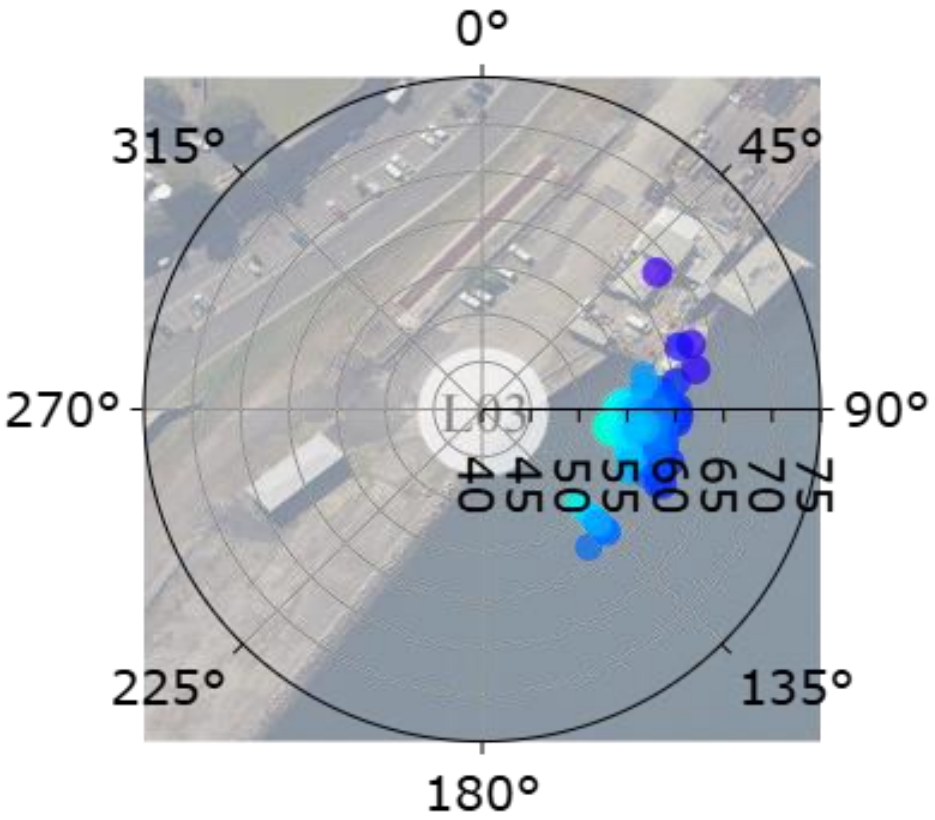


Figure 3.4 Typical vessel polar (directional) plot

3.3 Luga (GLB8) – April 23 – April 25, 2025

3.3.1 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
April 22, 2025[4]	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	-	-	-	-	-
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	Yes	55	Yes
			L_{Amax}	58	-	-	65	Yes
April 23, 2025	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	54[5]	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	54[5]	No	Yes	55	Yes
			L_{Amax}	59	-	-	65	Yes
April 24, 2025	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	54[5]	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53[5]	No	Yes	55	Yes
			L_{Amax}	81[6]	-	-	65	Yes[6]
April 25, 2025	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53[5]	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) Note that the system classifies April 22 as the period from 7 am on April 22 to 7 am on April 23. The Luga arrived at 4:10 am on April 23, and has been incorporated in the data for April 22

5) Measurements determined that noise was tonal at 6,300 Hz for periods during this night time period. A further review into the data determined that this was likely associated with extraneous noise in the area rather than the vessel. As such, no tonal correction has been applied.

6) This maximum level event occurred several times during the night time period of April 24. A review of the audio identified that this was not associated with the vessel. The vessel was compliant at all other times, therefore this is not considered an exceedance.

3.3.2 Additional information

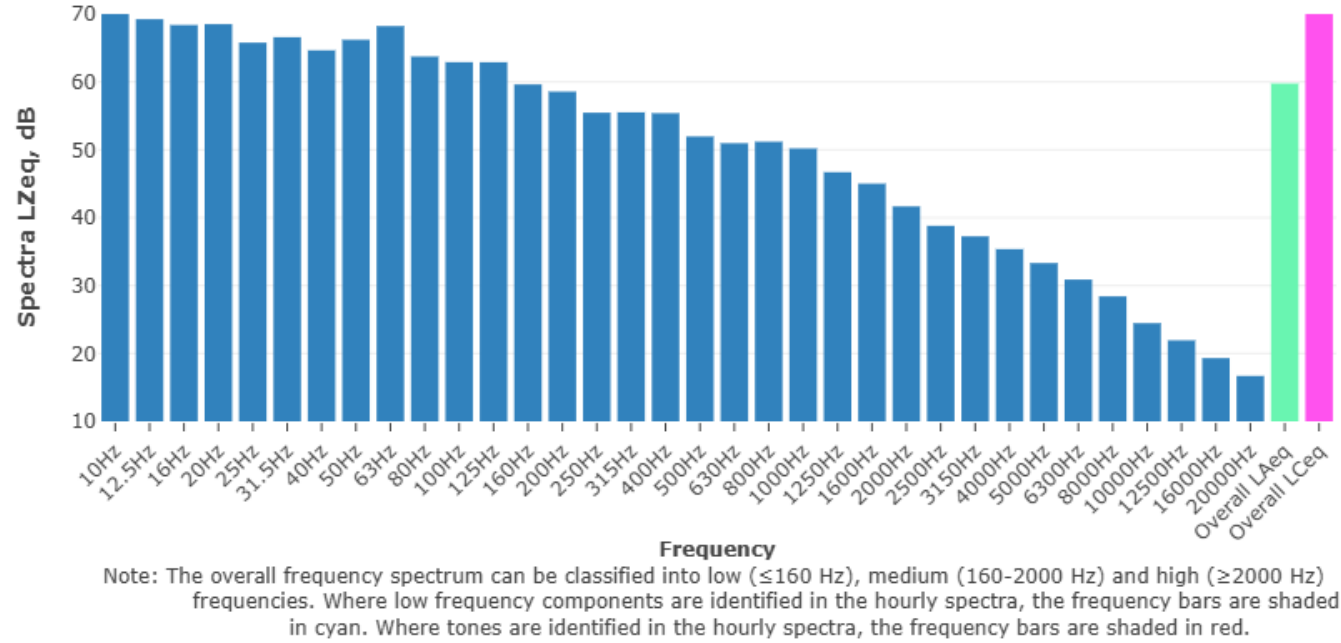


Figure 3.5 Typical vessel spectrum – noise level at L03

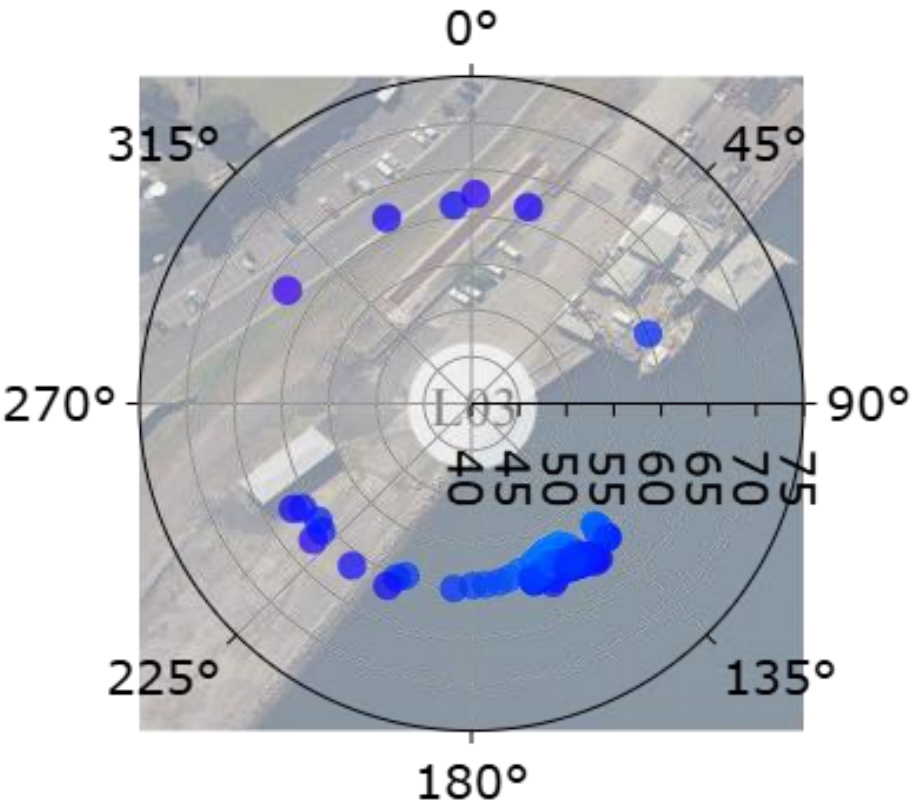


Figure 3.6 Typical vessel polar (directional) plot

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