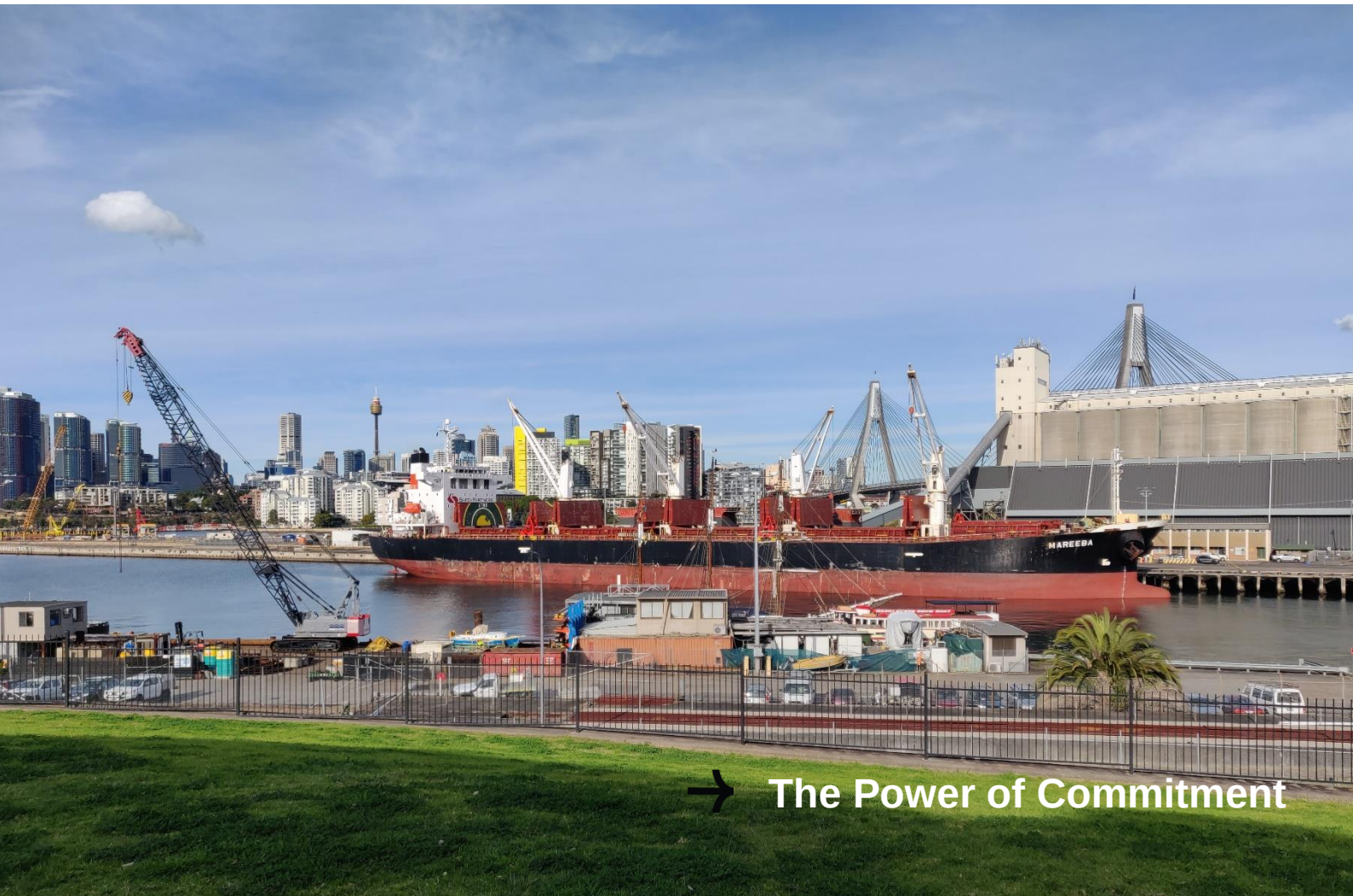
Monthly compliance noise monitoring report

Glebe Island / White Bay

Port Authority of New South Wales

November 2023



The Power of Commitment

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S4	0	C Gordon	E Milton		E Milton		20/12/2023

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 November 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 **Meter settings** A-weighted Fast time response 15 minute intervals	14529646	**Initial calibration level 90.6 dBA** Min. deviation = 0.0 dB Max. deviation = 0.1 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 = 0.0 dB Max. deviation = 0.1 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				
Four Nabucco	November 4, 2023 / 11:00	November 13, 2023 / 18:52	GLB1	Attended monitoring
Kondili	November 6, 2023 / 07:56	November 10, 2023 / 20:36	GLB8	L03

Vessel name	Arrival date and time	Departure date and time	Berth location	Applicable noise monitoring location/s
Pioneer	November 6, 2023 / 09:06	November 10, 2023 / 15:01	GLB7	L03
Kondili	November 20, 2023 / 02:37	November 26, 2023 / 02:23	GLB8	L03
Tawaki	November 20, 2023 / 20:08	November 26, 2023 / 00:09	GLB7	L03
Cruise vessels				
Pacific Adventure	November 4, 2023 / 06:58	November 4, 2023 / 16:48	WBCT	L01
Pacific Adventure	November 10, 2023 / 08:12	November 10, 2023 / 16:04	WBCT	L01
Pacific Adventure	November 13, 2023 /07:58	November 13, 2023 / 16:03	WBCT	L01
Pacific Adventure	November 17, 2023 / 07:06	November 17, 2023 / 16:45	WBCT	L01
Pacific Adventure	November 20, 2023 / 06:56	November 20, 2023 / 16:40	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
Four Nabucco	Nov 4 – Nov 13	Attended[4]	60	53	No max events	60	55	65	Yes	Yes
Kondili	Nov 6 – Nov 10	L03	57[5]	52[5]	65[5]	60	55	65	Yes	Yes
Pioneer	Nov 6 – Nov 10	L03				60	55	65	Yes	Yes
Kondili	Nov 20 – Nov 26	L03	58[6]	53[6]	66[6,7]	60	55	65	Yes	Yes
Tawaki	Nov 20 – Nov 26	L03				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) – loudest 1 hour period

Note: 4) The Four Nabucco was located in berth GLB 1, and therefore noise levels were not captured by the permanent noise monitoring system. As such, attended monitoring was undertaken on the 6th and 7th November to determine noise levels. The details of these measurements is detailed in the compliance noise monitoring report, ref 12540862-REP_GI 1 - Four Nabucco noise monitoring_06-11-2023, dated 9 November 2023.

Note: 5) The Kondili and Pioneer were berthed in Glebe Island 8 and Glebe Island 7 simultaneously, therefore individual noise levels could not be obtained. Noise levels were assigned to the Kondili during this visit, however the measured noise level is the cumulative level from both vessels. As all noise levels were compliant during these visits, a detailed noise assessment has not been undertaken

Note: 6) The Kondili and Tawaki were berthed in Glebe Island 8 and Glebe Island 7 simultaneously, therefore individual noise levels could not be obtained. Noise levels were assigned to the Kondili during this visit, however the measured noise level is the cumulative level from both vessels.. As all noise levels were compliant during these visits, a detailed noise assessment has not been undertaken

Note: 7) One maximum noise level event occurred during the visit, at 4:32 am on November 23. It was not possible to determine the source of the noise, however a 1 dB exceedance of the criteria on one occasion only is unlikely to impact the surrounding community. Maximum noise levels were below the criteria at all other times

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	Nov 4	L01	59	54	N/A	58	N/A	Yes
Pacific Adventure	Nov 10	L01	59	-	N/A	58	N/A	-
Pacific Adventure	Nov 13	L01	58	-	N/A	58	N/A	-
Pacific Adventure	Nov 17	L01	58	55	N/A	58	N/A	Yes
Pacific Adventure	Nov 20	L01	57	54	N/A	58	N/A	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

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 Kondili (GLB8) and Pioneer (GLB7) – November 6 – November 10, 2023

The Kondili and Pioneer were berthed in Glebe Island 8 and Glebe Island 7 simultaneously, therefore individual noise levels could not be obtained. Noise levels were assigned to the Kondili during this visit, however the measured noise level is the cumulative level from both vessels. As all noise levels were compliant during these visits, a detailed noise assessment has not been undertaken.

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
November 6, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	57	No	No	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	52	No	No	55	Yes
			L_{Amax}	62	-	-	65	Yes
November 7, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	55	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	51	-	-	55	-
			L_{Amax}	59	-	-	65	-
November 8, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	51	No	Yes	55	Yes
			L_{Amax}	58	-	-	65	Yes
November 9, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	53	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	51	-	-	55	-
			L_{Amax}	65	-	-	65	-
November 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
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

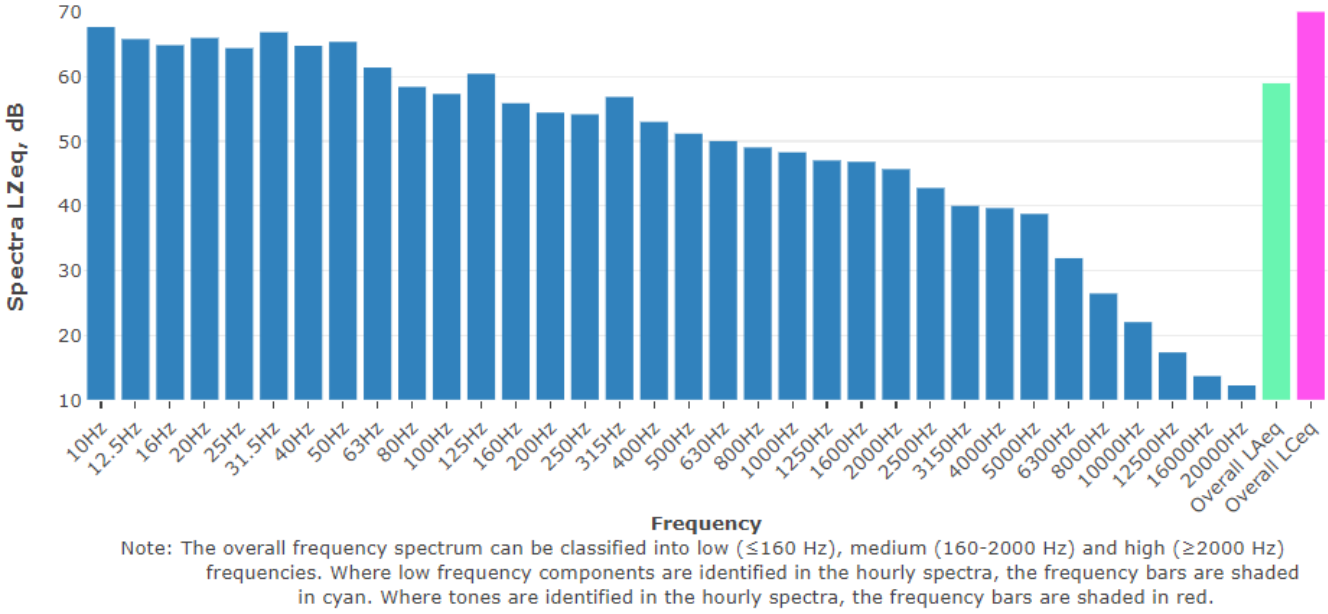


Figure 4.1 Typical vessel spectrum – noise level at L03

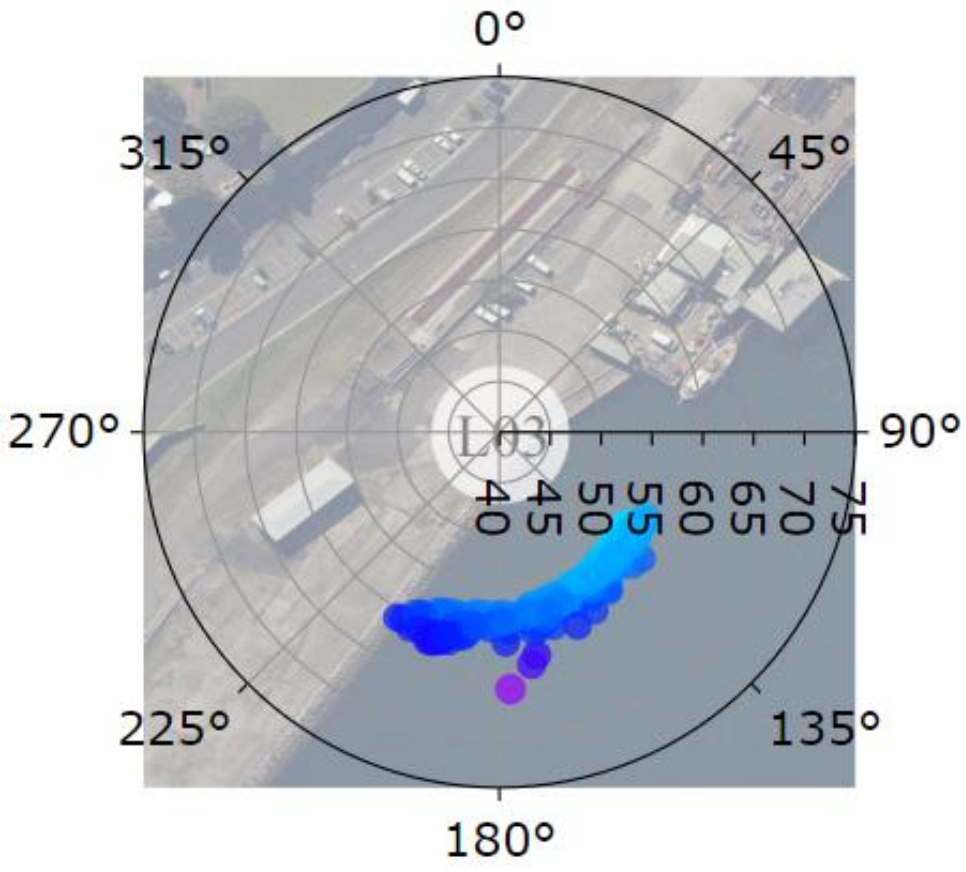


Figure 4.2 Typical vessel polar (directional) plot

4.2 Kondili (GLB8) and Tawaki (GLB7) – November 20 – November 26, 2023

The Kondili and Tawaki were berthed in Glebe Island 8 and Glebe Island 7 simultaneously, therefore individual noise levels could not be obtained. Noise levels were assigned to the Kondili during this visit, however the measured noise level is the cumulative level from both vessels. As all noise levels were compliant during these visits, a detailed noise assessment has not been undertaken.

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
November 20, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	55	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	Yes	55	Yes
			L_{Amax}	62	-	-	65	Yes
November 21, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	58	Yes	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	Yes	55	Yes
			L_{Amax}	62	-	-	65	Yes
November 22, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	55	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	53	No	Yes	55	Yes
			L_{Amax}	66[4]	-	-	65	Yes[4]
November 23, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	54	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	52	No	Yes	55	Yes
			L_{Amax}	63	-	-	65	Yes
November 24, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	52	Yes	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	50	No	Yes	55	Yes
			L_{Amax}	62	-	-	65	Yes
November 25, 2023	Day	L03	$L_{Aeq,\ 15\ hour}$[1]	51	No	Yes	60	Yes
	Night		$L_{Aeq,\ 1\ hour}$[1]	50	No	Yes	55	Yes
			L_{Amax}	64	-	-	65	Yes

Notes

1) Daytime period (7 am to 10 pm) – 15 hours

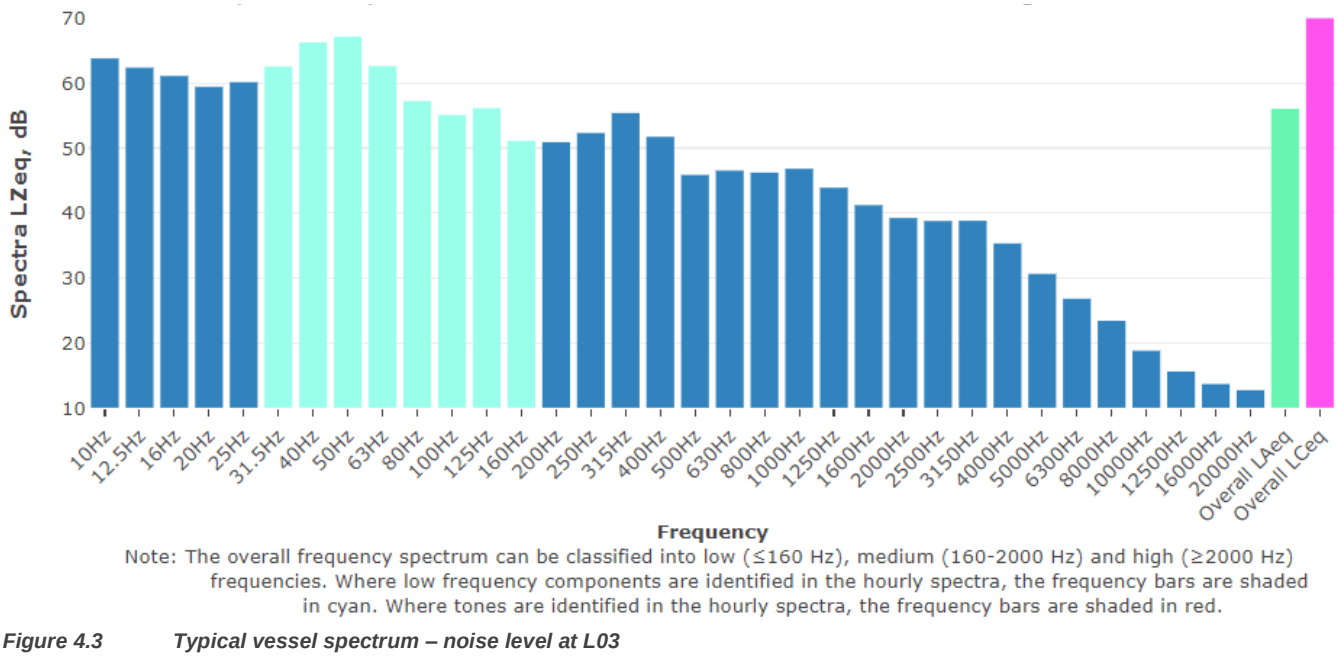
Night-time period (10 pm to 7 am) – worst case 1 hour

2) Inclusive of any penalties for modifying factors

3) LFN = Low Frequency Noise

4) One maximum noise level event occurred during the visit, at 4:32 am on November 23. It was not possible to determine the source of the noise, however a 1 dB exceedance of the criteria on one occasion only is unlikely to impact the surrounding community. Maximum noise levels were below the criteria at all other times

4.2.2 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 4.3 Typical vessel spectrum – noise level at L03

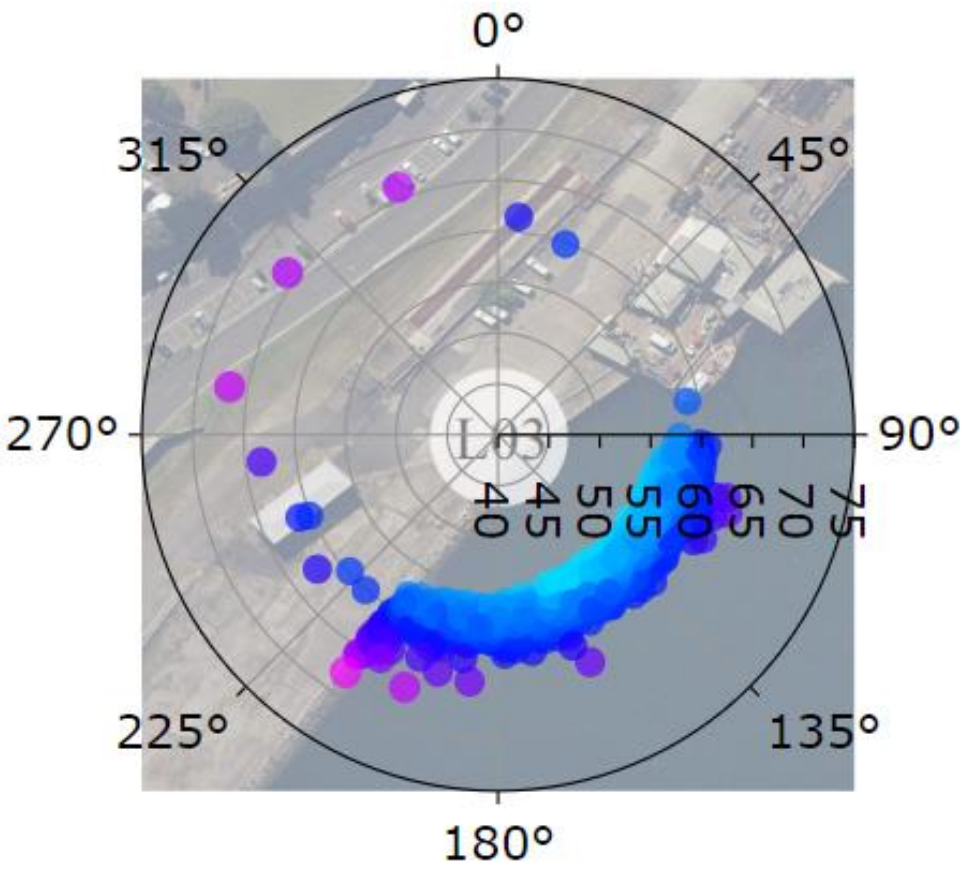


Figure 4.4 Typical vessel polar (directional) plot

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