



# Monthly compliance noise monitoring report

**Glebe Island / White Bay**

Port Authority of New South Wales

April 2024



**The Power of Commitment**

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<b>Document title</b>	Monthly compliance noise monitoring report – April 2024
<b>Revision version</b>	Rev 2
<b>Project number</b>	12540862

**Document status**

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	C Gordon	C Doyle		E Milton		24/05/2024
S4	1	C Gordon	C Doyle		E Milton		27/06/2024
S4	2	C Gordon	C Doyle		E Milton		03/07/2024

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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 2024, 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	<b>Meter details</b> Norsonic Nor145 Sound Level Meter with Nor1297 Noise Compass  <b>Meter settings</b> A-weighted Fast time response 15 minute intervals	14529646	<b>Initial calibration level 90.7 dBA</b> Min. deviation = 0.0 dB Max. deviation = 0.1 dB
		L02	Maintenance Building on White Bay		14529643	<b>Initial calibration level 91.9 dBA</b> Min. deviation = 0.3 dB Max. deviation = 0.3 dB
		L03	Adjacent to White Bay 2		14529645	<b>Initial calibration level 92.5 dBA</b> Min. deviation = 0.2 dB Max. deviation = 0.2 dB
		L04	Onsite at Glebe Island		14529640	<b>Initial calibration level 93.9 dBA</b> 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	
<b>Bulk vessels</b>						
Akuna	April 9, 2024 / 09:52	April 11, 2024 / 07:37		GLB8	L03	
Pioneer	April 20, 2024 / 11:01	April 24, 2024 / 12:54		GLB7	L03	

Vessel name	Arrival date and time	Departure date and time	Berth location	Applicable noise monitoring location/s
<b>Bulk vessels</b>				
Tawaki	April 28, 2024 / 22:54	May 2, 2024 / 12:11	GLB7	L03
<b>Cruise vessels</b>				
Pacific Adventure	April 1, 2024 / 06:43	April 1, 2024 / 16:14	WBCT	L01
Pacific Adventure	April 5, 2024 / 05:03	April 5, 2024 / 16:04	WBCT	L01
Noordam	April 6, 2024 / 12:05	April 6, 2024 / 22:12	WBCT	L01
Pacific Adventure	April 12, 2024 / 06:43	April 12, 2024 / 16:08	WBCT	L01
Scenic Eclipse II	April 21, 2024 / 00:48	April 21, 2024 / 16:30	WHT4	L02
Pacific Adventure	April 21, 2024 / 04:35	April 21, 2024 / 16:20	WBCT	L01
Pacific Adventure	April 25, 2024 / 06:58	April 25, 2024 / 16:21	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 <sup>1</sup>	
			Day <sup>2</sup> L <sub>Aeq</sub> (15 hr)	Night <sup>3</sup> L <sub>Aeq</sub> (1 hr)	Night <sup>3</sup> L <sub>Amax</sub>	Day <sup>2</sup> L <sub>Aeq</sub> (15 hr)	Night <sup>3</sup> L <sub>Aeq</sub> (1 hr)	Night <sup>3</sup> L <sub>Amax</sub>	Day	Night
Akuna	Apr 9 – Apr 11	L03	55	52	62	60	55	65	Yes	Yes
Pioneer	Apr 20 – Apr 24	L03	52	52	64	60	55	65	Yes	Yes
Tawaki	Apr 28 – May 2	L03	55	52	67	60	55	65	Yes	No <sup>4</sup>

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) A review of the data indicates the maximum noise exceedance is likely to be associated with the vessel, however a 1-2 dB exceedance of the criteria is considered negligible. This only occurred once, and all other maximum noise level events were below the vessel noise trigger level

## 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 <sup>2</sup> L <sub>Aeq</sub> (15 hr)	Night <sup>3</sup> L <sub>Aeq</sub> (9 hr)	Day <sup>2</sup> L <sub>Aeq</sub> (15 hr)	Night <sup>3</sup> L <sub>Aeq</sub> (9 hr)	Day <sup>4</sup>	Night
Pacific Adventure	Apr 1	L01	58	53	N/A	58	N/A	Yes
Pacific Adventure	Apr 5	L01	60	55	N/A	58	N/A	Yes
Noordam	Apr 6	L01	55	-	N/A	58	N/A	Yes
Pacific Adventure	Apr 12	L01	59	55	N/A	58	N/A	Yes
Scenic Eclipse II	Apr 21	L02	53	51	N/A	58	N/A	Yes
Pacific Adventure	Apr 21	L01	59	51	N/A	58	N/A	Yes
Pacific Adventure	Apr 25	L01	56	51	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 Akuna (GLB8) – April 9 – April 11, 2024

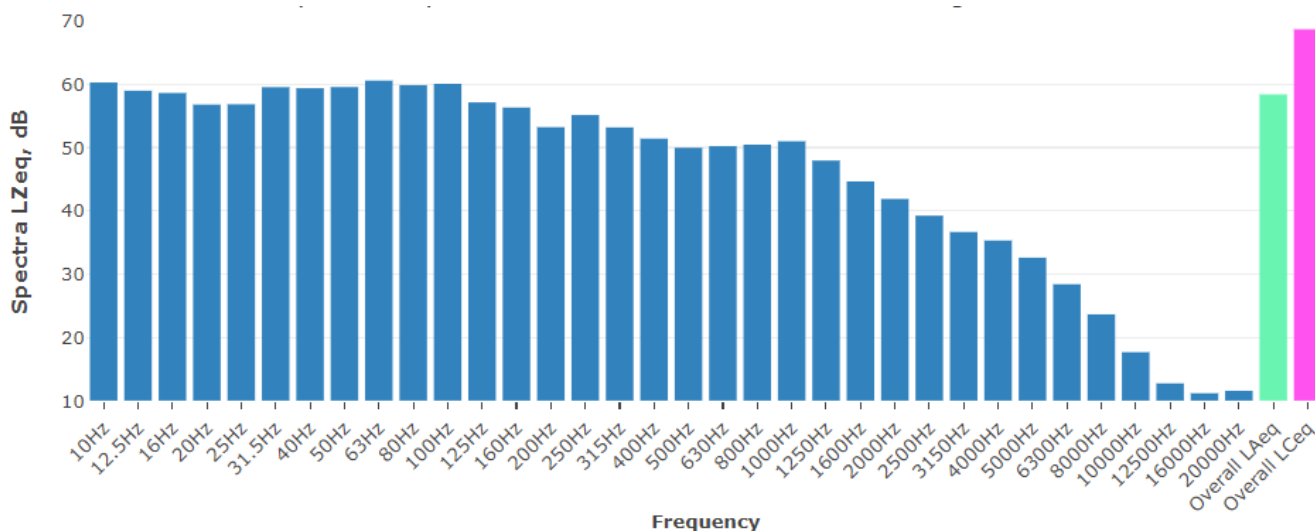
#### 4.1.1 Daily noise monitoring results

Date	Time period <sup>1</sup>	Monitor location	Noise descriptor	Vessel noise level dBA <sup>2</sup>	Tonal	LFN <sup>3</sup>	Vessel Noise Trigger Levels, dBA	Compliance
April 9, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	55	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	52	No	Yes	55	Yes
			L <sub>Amax</sub>	62	-	-	65	Yes
April 10, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	54	No	No	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	52	No	No	55	Yes
			L <sub>Amax</sub>	61	-	-	65	Yes
April 11, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	53	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	-	-	-	55	-
			L <sub>Amax</sub>	-	-	-	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



Note: The overall frequency spectrum can be classified into low ( $\leq 160$  Hz), medium (160-2000 Hz) and high ( $\geq 2000$  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

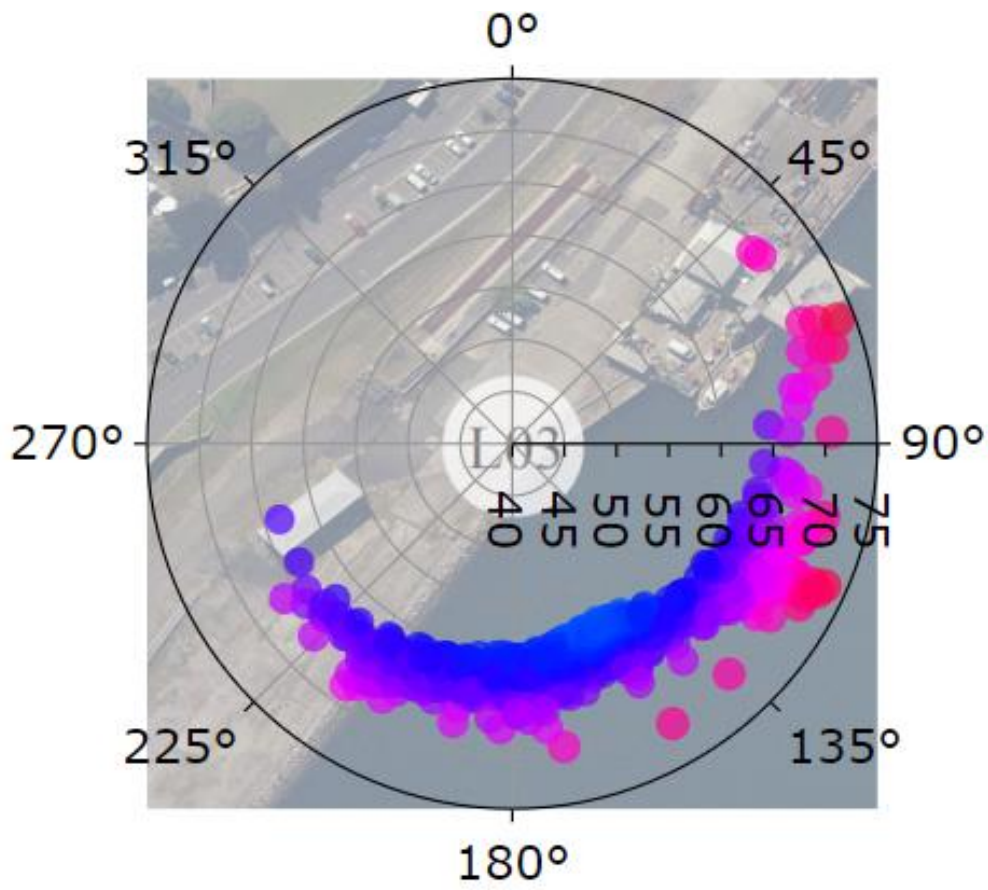


Figure 4.2 Typical vessel polar (directional) plot



## 4.2 Pioneer (GLB7) – April 20 – April 24, 2024

### 4.2.1 Daily noise monitoring results

Date	Time period <sup>1</sup>	Monitor location	Noise descriptor	Vessel noise level dBA <sup>2</sup>	Tonal	LFN <sup>3</sup>	Vessel Noise Trigger Levels, dBA	Compliance
April 20, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	52	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	51	No	No	55	Yes
			L <sub>Amax</sub>	57	-	-	65	Yes
April 21, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	48	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	48 <sup>4</sup>	No	No	55	Yes
			L <sub>Amax</sub>	64	-	-	65	Yes
April 22, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	49 <sup>4</sup>	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	52 <sup>4</sup>	No	Yes	55	Yes
			L <sub>Amax</sub>	57	-	-	65	Yes
April 23, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	48 <sup>4</sup>	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	47	No	Yes	55	Yes
			L <sub>Amax</sub>	64	-	-	65	Yes
April 24, 2024	Day	L03	L <sub>Aeq, 15 hour</sub> <sup>1</sup>	50	No	Yes	60	Yes
	Night		L <sub>Aeq, 1 hour</sub> <sup>1</sup>	-	-	-	55	-
			L <sub>Amax</sub>	-	-	-	65	-

Notes

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

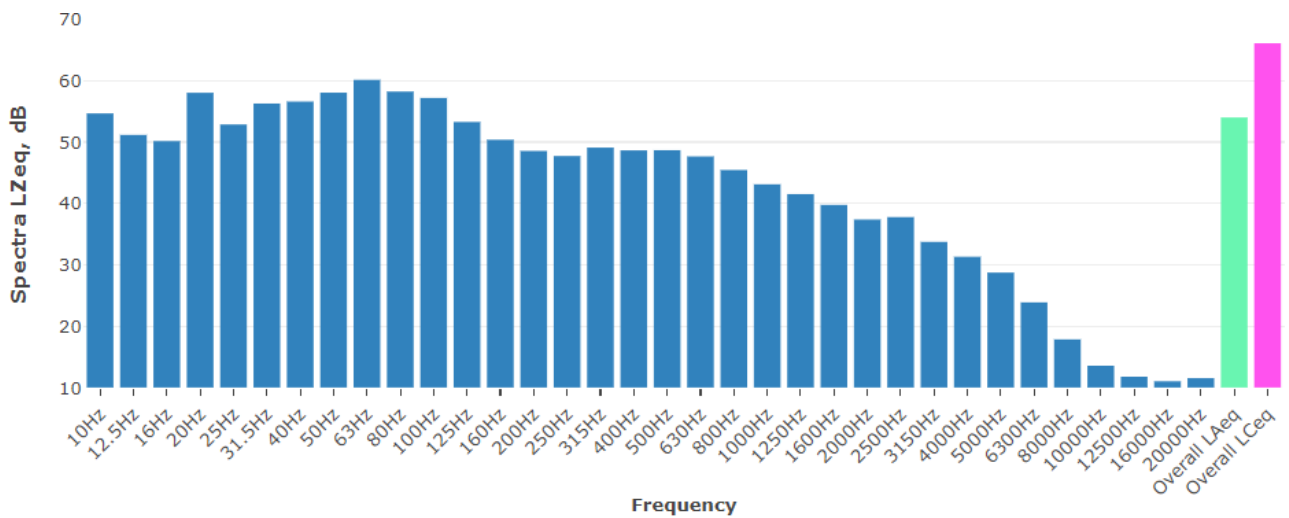
Night-time period (10 pm to 7 am) – worst case 1 hour

2) Inclusive of any penalties for modifying factors

3) LFN = Low Frequency Noise

4) Measurements determined that noise was tonal at 6,300 Hz for periods during this 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.

## 4.2.2 Additional information



Note: The overall frequency spectrum can be classified into low ( $\leq 160$  Hz), medium (160-2000 Hz) and high ( $\geq 2000$  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

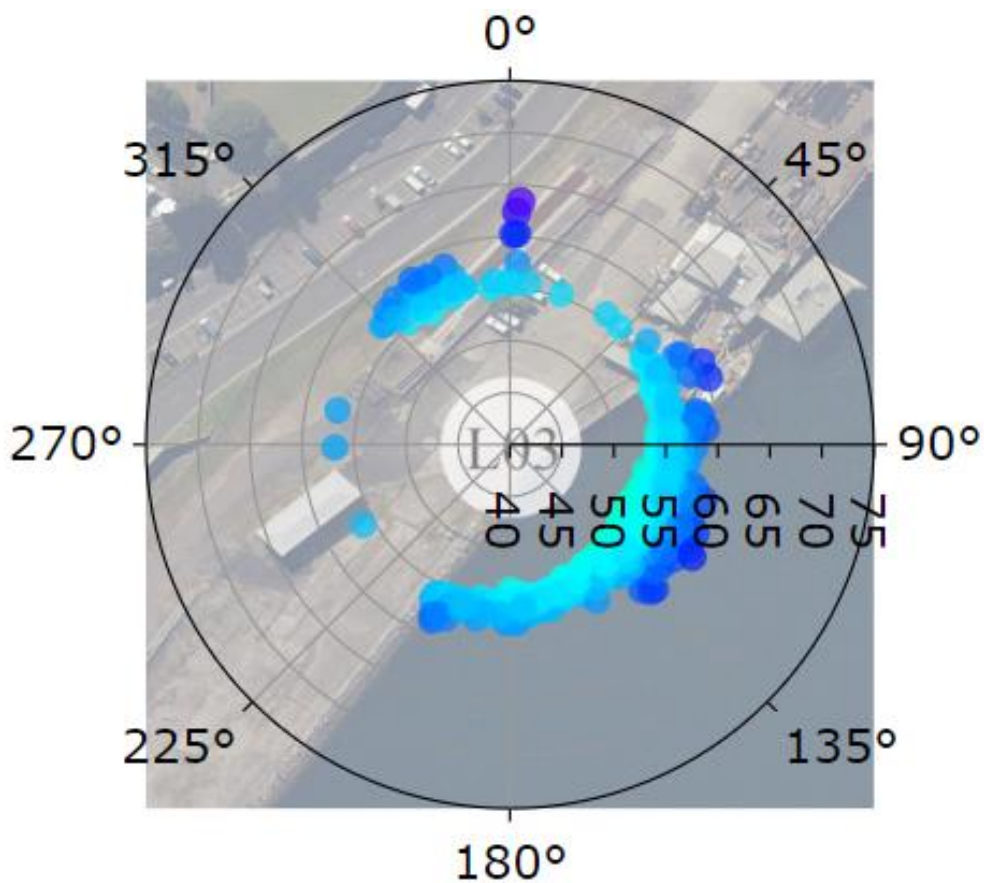


Figure 4.4 Typical vessel polar (directional) plot

## 4.3 Tawaki (GLB7) – April 28 – May 2, 2024

### 4.3.1 Daily noise monitoring results

Date	Time period <sup>1</sup>	Monitor location	Noise descriptor	Vessel noise level dBA <sup>2</sup>	Tonal	LFN <sup>3</sup>	Vessel Noise Trigger Levels, dBA	Compliance
April 28, 2024	Day	L03	L <sub>Aeq</sub> , 15 hour <sup>1</sup>	-	-	-	60	-
	Night		L <sub>Aeq</sub> , 1 hour <sup>1</sup>	52 <sup>4</sup>	No	Yes	55	Yes
			L <sub>Amax</sub>	59	-	-	65	Yes
April 29, 2024	Day	L03	L <sub>Aeq</sub> , 15 hour <sup>1</sup>	55 <sup>4</sup>	No	Yes	60	Yes
	Night		L <sub>Aeq</sub> , 1 hour <sup>1</sup>	52	No	Yes	55	Yes
			L <sub>Amax</sub>	67 <sup>5</sup>	-	-	65	No
April 30, 2024	Day	L03	L <sub>Aeq</sub> , 15 hour <sup>1</sup>	54	No	Yes	60	Yes
	Night		L <sub>Aeq</sub> , 1 hour <sup>1</sup>	52	No	Yes	55	Yes
			L <sub>Amax</sub>	61	-	-	65	Yes
May 1, 2024 <sup>6</sup>	Day	L03	L <sub>Aeq</sub> , 15 hour <sup>1</sup>	55	No	Yes	60	Yes
	Night		L <sub>Aeq</sub> , 1 hour <sup>1</sup>	52	No	Yes	55	Yes
			L <sub>Amax</sub>	60	-	-	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

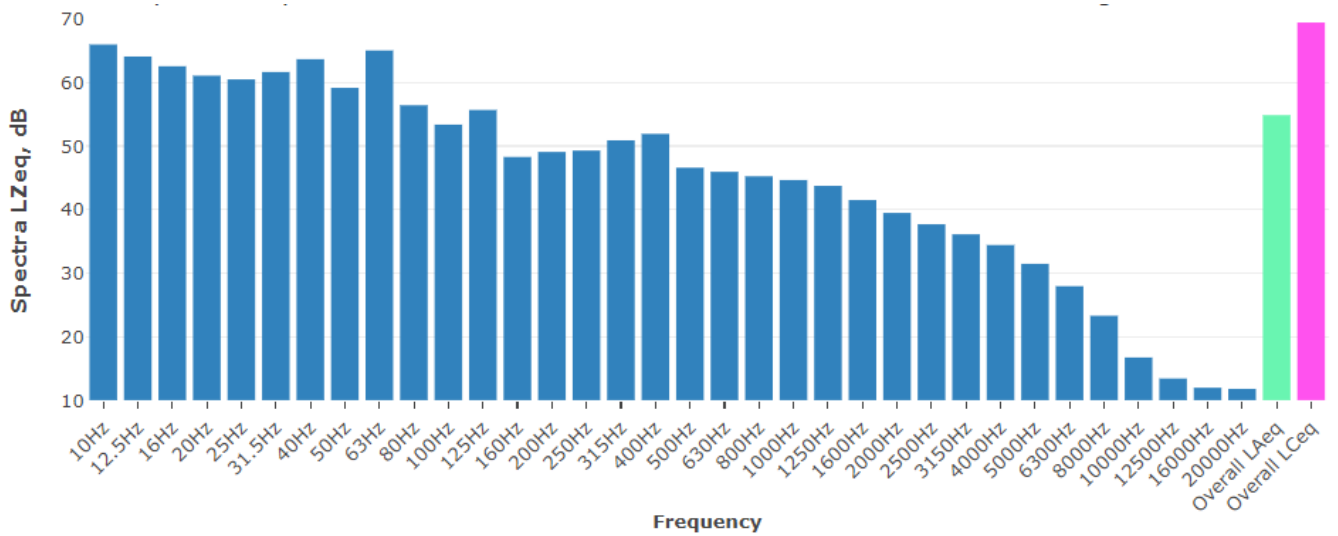
3) LFN = Low Frequency Noise

4) Measurements determined that noise was tonal at 6,300 Hz for periods during this 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.

5) A review of the data indicates this is likely to be associated with the vessel, however a 1-2 dB exceedance of the criteria is considered negligible. This only occurred once and all other maximum noise level events were below the vessel noise trigger level

6) Note that the system classifies May 1 as the period from 7 am on May 1 to 7 am on May 2. The Tawaki departed at 12:11 am on May 2, and has been incorporated in the data for May 1.

### 4.3.2 Additional information



Note: The overall frequency spectrum can be classified into low ( $\leq 160$  Hz), medium (160-2000 Hz) and high ( $\geq 2000$  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

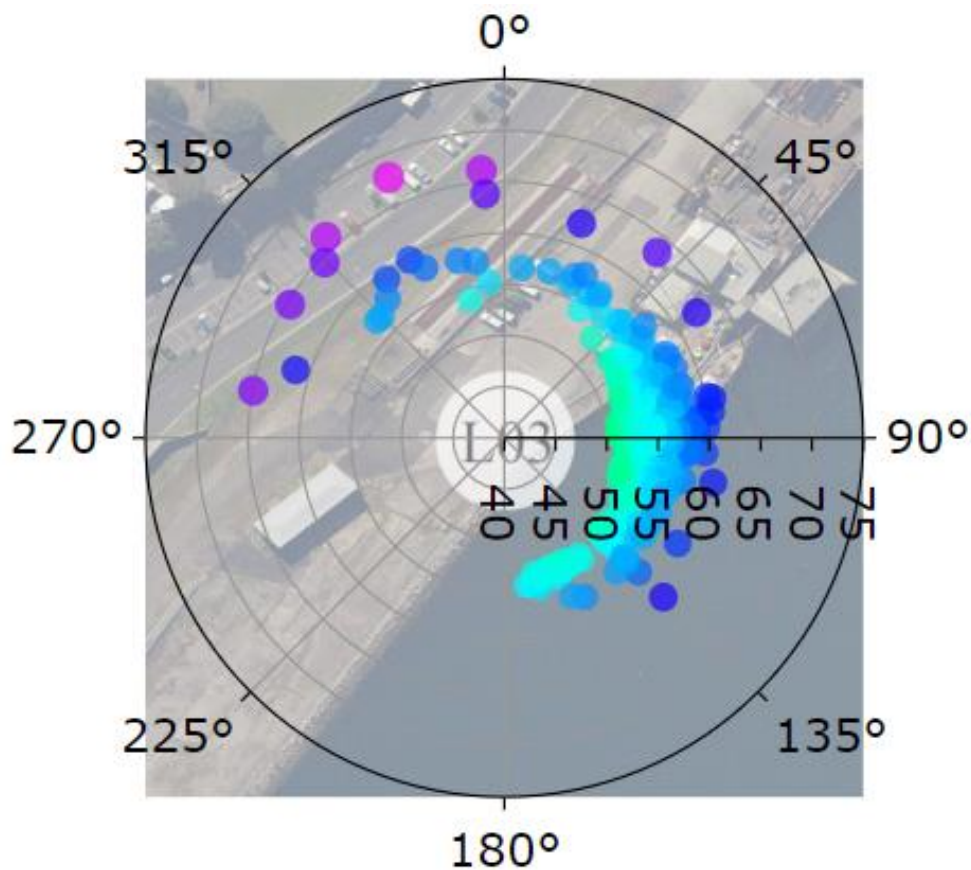


Figure 4.6 Typical vessel polar (directional) plot



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