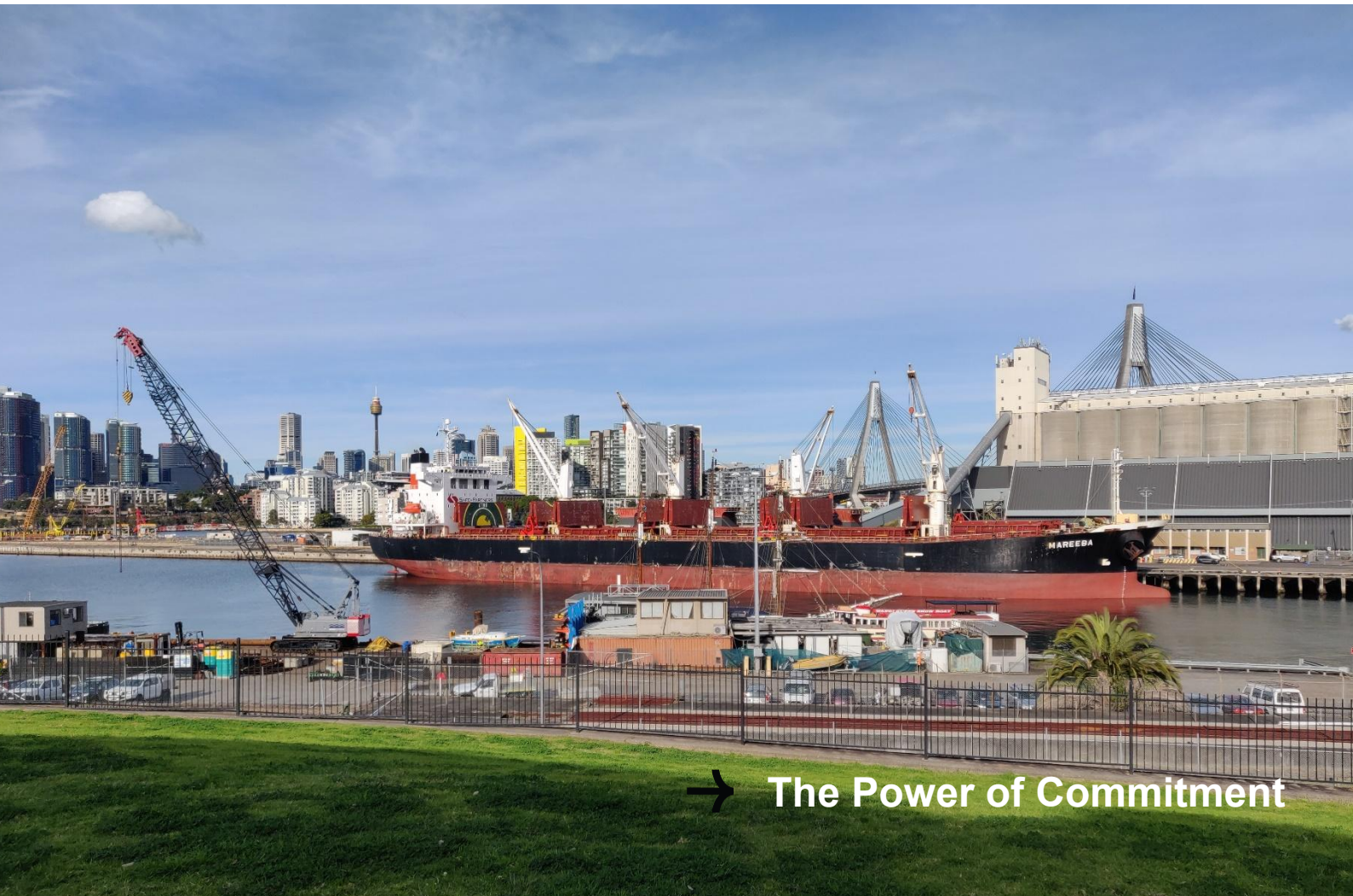
# Monthly compliance noise monitoring report

## Glebe Island / White Bay

Port Authority of New South Wales

January 2026



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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 January 2026, 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<br><br>Member of the Association of Australasian Acoustical Consultants (AAAC)<br><br>Lead staff are Members of the Australian Acoustical Society (AAS) | L01 | Grafton Street, Balmain | **Meter details**<br>Norsonic Nor145 Sound Level Meter with Nor1297 Noise Compass<br><br>**Meter settings**<br>A-weighted Fast time response 15 minute intervals | 14529642 | **Initial calibration level 91.9 dBA**<br>Min. deviation = 0.0 dB<br>Max. deviation = 0.1 dB |
| | | L02 | Maintenance Building on White Bay | | 14529645 | **Initial calibration level 91.3 dBA**<br>Min. deviation = 0.0 dB<br>Max. deviation = 0.1 dB |
| | | L03 | Adjacent to White Bay 2 | | 14529644 | **Initial calibration level 92.9 dBA**<br>Min. deviation = 0.0 dB<br>Max. deviation = 0.1 dB |
| | | L04 | Onsite at Glebe Island | | 14529646 | Not operational during January |

| Vessel name | Arrival date and time | Departure date and time | Berth location | Applicable noise monitoring location/s |
|---|---|---|---|---|
| **Bulk vessels** | | | | |
| Luga | December 29, 2025 / 20:58 | January 1, 2026 / 13:48 | GLB8 | L03 |
| Luga | January 10, 2026 / 02:24 | January 12, 2026 / 09:58 | GLB8 | L03 |
| CSL Reliance | January 15, 2026 / 16:48 | January 22, 2026 / 12:07 | GLB7 | L03 |
| Pioneer[1] | January 27, 2026 / 11:47 | January 31, 2026 / 09:22 | GLB7 / WHT4 | L03 / L02 |
| Luga | January 27, 2026 / 21:32 | February 6, 2026 / 11:08 | GLB8 | L03 |

| Vessel name | Arrival date and time | Departure date and time | Berth location | Applicable noise monitoring location/s |
|---|---|---|---|---|
| **Cruise vessels** | | | | |
| Silver Moon | December 30, 2025 / 14:01 | January 1, 2026 / 09:01 | WHT4 | L02 |
| Azamara Pursuit | December 31, 2025 / 07:38 | January 1, 2026 / 10:23 | WBCT | L01 |
| Disney Wonder | January 3, 2025 / 06:59 | January 3, 2026 / 17:30 | WBCT | L01 |
| Azamara Pursuit | January 6, 2026 / 07:45 | January 7, 2026 / 18:21 | WBCT | L01 |
| Disney Wonder | January 8, 2026 / 07:07 | January 8, 2026 / 16:55 | WBCT | L01 |
| The World | January 10, 2026 / 11:42 | January 12, 2026 / 17:55 | WBCT | L01 |
| Disney Wonder | January 16, 2026 / 07:23 | January 16, 2026 / 16:58 | WBCT | L01 |
| Norwegian Spirit[2] | January 16, 2026 / 09:26 | January 17, 2026 / 18:00 | WHT4/WBCT | L01/L02 |
| Carnival Adventure | January 19, 2026 / 04:50 | January 19, 2026 / 15:51 | WBCT | L01 |
| Seabourn Quest | January 19, 2026 / 06:44 | January 19, 2026 / 16:08 | WHT4 | L02 |
| Seven Seas Navigator | January 23, 2026 / 06:25 | January 23, 2026 / 17:55 | WHT4 | L02 |
| Disney Wonder | January 23, 2026 / 06:52 | January 23, 2026 / 17:33 | WBCT | L01 |
| Carnival Adventure | January 24, 2026 / 06:36 | January 24, 2026 / 16:40 | WBCT | L01 |
| Viking Venus[3] | January 24, 2026 / 07:25 | January 26, 2026 / 16:19 | WHT4/WBCT | L01/L02 |
| Disney Wonder | January 26, 2026 / 06:22 | January 26, 2026 / 17:30 | WBCT | L01 |
| Seven Seas Explorer | January 27, 2026 / 05:12 | January 27, 2026 / 17:52 | WHT4 | L02 |
| Carnival Adventure | January 27, 2026 / 06:17 | January 28, 2026 / 02:15 | WBCT | L01 |
| Viking Orion[4] | January 30, 2026 / 06:46 | January 31, 2026 / 17:52 | WBCT/WHT4 | L01/L02 |
| Carnival Adventure | January 31, 2026 / 04:37 | January 31, 2026 / 15:50 | WBCT | L01 |

Notes:

1) Pioneer arrived at GLB7 on 27/01/2026 and moved to WHT4 on the same day at 19:06. Then it went back to GLB7 at 22:46
2) Norwegian Spirit arrived at WHT4 on 16/01/2026 and moved to WBCT on the same day at 18:04. Its departure from WBCT was on 17/01/2026
3) Viking Venus arrived at WHT4 on 24/01/2026 and moved to WBCT on the same day at 19:00. Then, it moved back to WHT4 on 25/01/2026 at 19:34. Its departure from WHT4 was on 26/01/2026
4) Viking Orion arrived at WBCT on 30/01/2026 and moved on the same day to WHT4 at 19:20. Its departure from WHT4 was on 31/01/2026

## 2.1 Compliance summary

## 2.2 Bulk vessels / other 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 $L_{Amax}$ |
| **Bulk vessels** | | | | | | | | | | | |
| Luga | Dec 29 – Jan 1 | L03 | 57 | 55 | 62 | 60 | 55 | 65 | Yes | Yes | Yes |
| Luga | Jan 10 – Jan 12 | L03 | 55 | 55 | 60 | 60 | 55 | 65 | Yes | Yes | Yes |
| CSL Reliance | Jan 15 – Jan 22 | L03 | 57 | 55 | 64 | 60 | 55 | 65 | Yes | Yes | Yes |
| Pioneer | Jan 27 – Jan 31 | L03 | 52 | 51 | -[4] | 60 | 55 | 65 | Yes | Yes | Yes[4] |
| Luga | Jan 27 – Feb 6 | L03 | 58 | 55 | 65 | 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

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

3) Noise levels were impacted by the New Year's Eve fireworks. These have excluded from these results

4) Pioneer (GLB7/WHT4) and Luga (GLB8) were both present between the 27 January to 31 January. See discussion in Section 3.5.2 below. Noise from the Luga was dominant during this period and has been assigned to this vessel. As a result, maximum noise levels from the Pioneer could not be determined, however given the Luga was compliant for the entire visit, Pioneer is also determined to be compliant.

## 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 | Night |
| Silver Moon | Dec 30 | L02 | 55 | 51 | N/A | 58 | N/A | Yes |
| | Dec 31 | L02 | 56 | 56[4] | N/A | 58 | N/A | Yes |
| | Jan 01 | L02 | 54 | - | N/A | 58 | N/A | - |
| Azamara Pursuit | Dec 31 | L01 | 55 | 54[4] | N/A | 58 | N/A | Yes |
| | Jan 01 | L01 | 55 | - | N/A | 58 | N/A | - |
| Disney Wonder | Jan 03 | L01 | 57 | - | N/A | 58 | N/A | - |
| Azamara Pursuit | Jan 06 | L01 | 51 | 47 | N/A | 58 | N/A | Yes |
| | Jan 07 | L01 | 53 | - | N/A | 58 | N/A | - |
| Disney Wonder | Jan 08 | L01 | 57 | - | N/A | 58 | N/A | - |
| The World | Jan 10 | L01 | 52 | 54 | N/A | 58 | N/A | Yes |
| | Jan 11 | L01 | 53 | 50 | N/A | 58 | N/A | Yes |
| | Jan 12 | L01 | 54 | - | N/A | 58 | N/A | - |
| Disney Wonder | Jan 16 | L01 | 59 | - | N/A | 58 | N/A | - |
| Norwegian Spirit | Jan 16 | L01/L02 | 57 | 55 | N/A | 58 | N/A | Yes |
| | Jan 17 | L01/L02 | 58 | - | N/A | 58 | N/A | - |
| Carnival Adventure | Jan 19 | L01 | 60[5] | - | N/A | 58 | N/A | - |
| Seabourn Quest | Jan 19 | L02 | 55 | - | N/A | 58 | N/A | - |
| Seven Seas Navigator | Jan 22[6] | L02 | - | 51 | N/A | 58 | N/A | Yes |
| | Jan 23 | L02 | 55 | - | N/A | 58 | N/A | - |
| Disney Wonder | Jan 22[7] | L01 | - | 53 | N/A | 58 | N/A | Yes |
| | Jan 23 | L01 | 58 | - | N/A | 58 | N/A | - |
| Carnival Adventure | Jan 24 | L01 | 58 | - | N/A | 58 | N/A | - |
| Viking Venus | Jan 24 | L02 (WHT4) | 54 | - | N/A | 58 | N/A | - |
| | | L01 (WBCT) | 50 | 49 | N/A | 58 | N/A | Yes |
| | Jan 25 | L02 (WHT4) | 50 | 52 | N/A | 58 | N/A | Yes |
| | | L01 (WBCT) | 53 | - | N/A | 58 | N/A | - |

| 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 | Night |
| | Jan 26 | L02 (WHT4) | 55 | - | N/A | 58 | N/A | - |
| Disney Wonder | Jan 26 | L01 | 58 | - | N/A | 58 | N/A | - |
| Seven Seas Explorer | Jan 26[8] | L02 | - | 52 | N/A | 58 | N/A | Yes |
| | Jan 27 | L02 | 55 | - | N/A | 58 | N/A | Yes |
| Carnival Adventure | Jan 26[9] | L01 | - | 55 | N/A | 58 | N/A | Yes |
| | Jan 27 | L01 | 58 | 54 | N/A | 58 | N/A | Yes |
| Viking Orion | Jan 29[10] | L01/L02 | - | 51 | N/A | 58 | N/A | Yes |
| | Jan 30 | L01/L02 | 54 | 54 | N/A | 58 | N/A | Yes |
| | Jan 31 | L02 | 55 | - | N/A | 58 | N/A | - |
| Carnival Adventure | Jan 30[11] | L01 | - | 55 | N/A | 58 | N/A | Yes |
| | Jan 31 | L01 | 59 | - | N/A | 58 | N/A | - |

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) Noise levels were impacted by the New Year's Eve fireworks. These have been excluded from these results

5) Seabourn Quest was berthed at White Bay 4 during this period which may have impacted the overall measured noise level of the Carnival Adventure

6) The system classifies January 22 as the period from 7 am on January 22 to 7 am on January 23. The Seven Seas Navigator arrived at 06:25am on January 23 and has been incorporated in the data for January 22.

7) The system classifies January 22 as the period from 7 am on January 22 to 7 am on January 23. The Disney Wonder arrived at 06:52 am on January 23, and has been incorporated in the data for January 22.

8) The system classifies January 26 as the period from 7 am on January 26 to 7 am on January 27. The Seven Seas Explorer arrived at 05:12 am on January 27, and has been incorporated in the data for January 26.

9) The system classifies January 26 as the period from 7 am on January 26 to 7 am on January 27. The Carnival Adventure arrived at 06:17 am on January 27, and has been incorporated in the data for January 26.

10) The system classifies January 29 as the period from 7 am on January 29 to 7 am on January 30. The Viking Orion arrived at 06:46 am on January 30, and has been incorporated in the data for January 29.

11) The system classifies January 30 as the period from 7 am on January 30 to 7 am on January 31. The Carnival Adventure arrived at 04:37 am on January 31, and has been incorporated in the data for January 30.

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 / other vessels

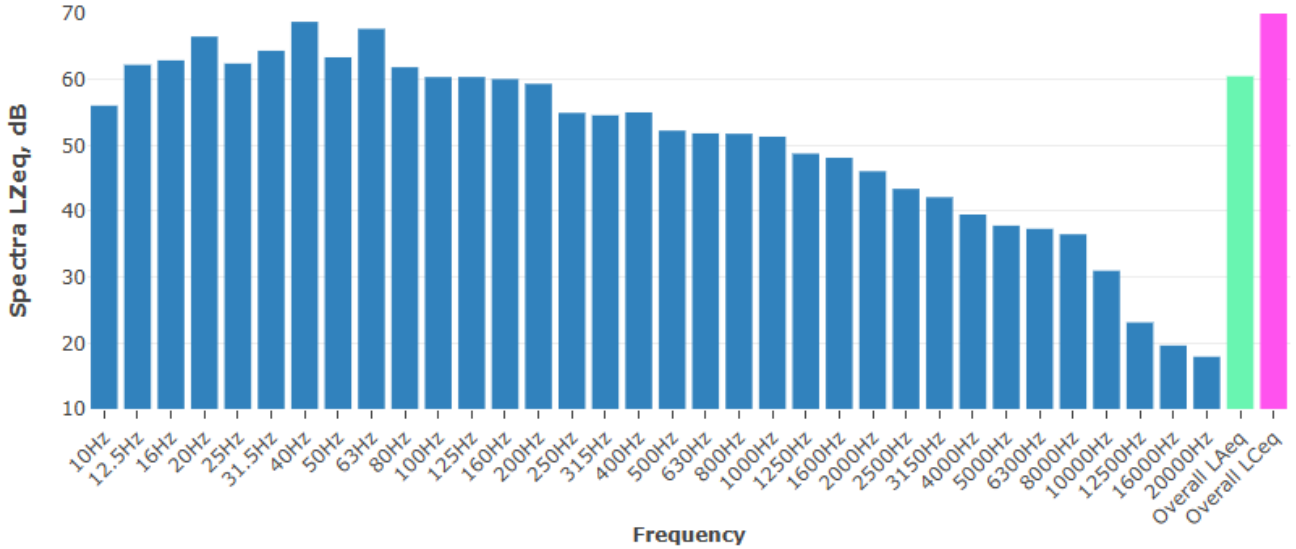
## 3.1 Luga (GLB8) – December 29, 2025 – January 1, 2026

### 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 |
|---|---|---|---|---|---|---|---|---|
| December 29 2025 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | -[4] | -[4] | -[4] | 60 | -[4] |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | -[4] | -[4] | -[4] | 55 | -[4] |
| | | | $L_{Amax}$ | -[4] | -[4] | -[4] | 65 | -[4] |
| December 30 2025[4] | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 54 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 53 | Yes | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 62 | - | - | 65 | Yes |
| December 31 2025 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 54 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 55 | Yes | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 60[5] | - | - | 65 | Yes |
| January 1 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 57 | 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
2) Night-time period (10 pm to 7 am) – worst case 1 hour inclusive of any penalties for modifying factors
3) LFN = Low Frequency Noise
4) The system was not operational during this period.
5) Noise levels were impacted by the New Year's Eve fireworks. These have excluded from these results

## 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*

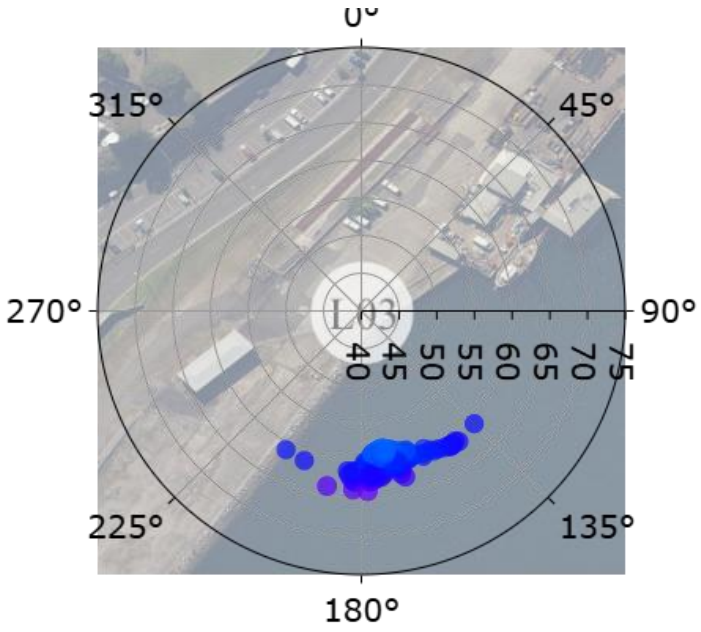



*Figure 3.2 Typical vessel polar (directional) plot*

## 3.2 Luga (GLB8) – January 10 – January 12, 2026

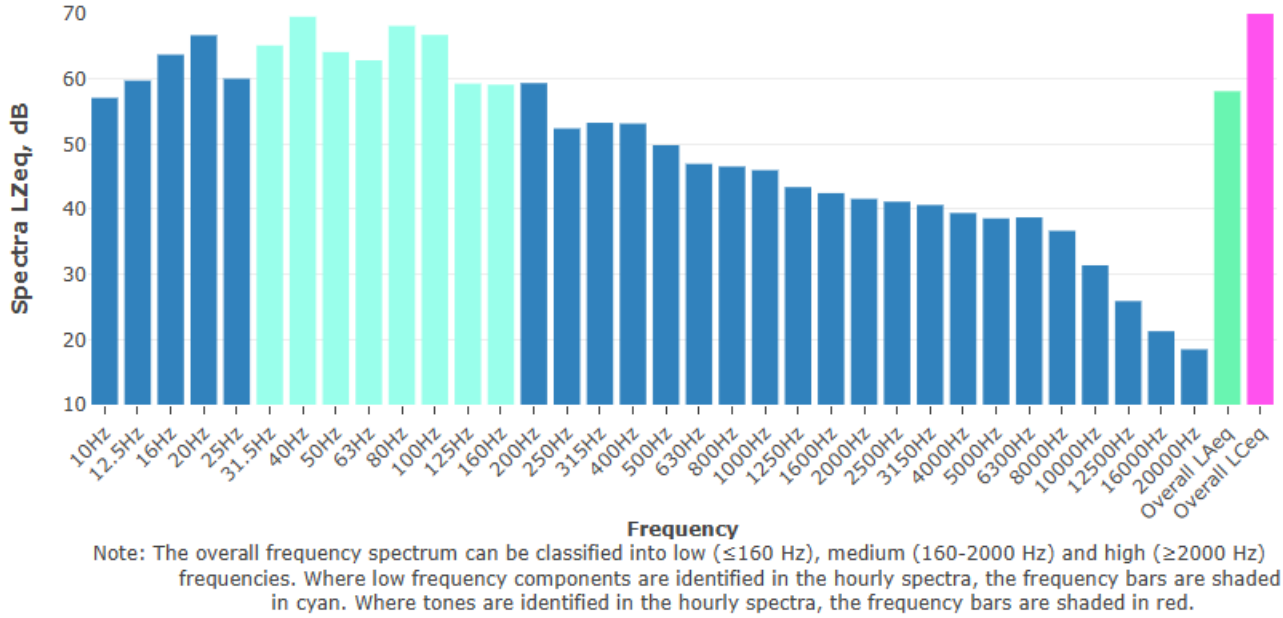
### 3.2.1 Daily noise monitoring results

| Date | Time period[1] | Monitor location | Noise descriptor | Vessel noise level dBA[2] | Tonal | LFN[3] | Vessel Noise Trigger Levels, dBA | Compliance |
|---|---|---|---|---|---|---|---|---|
| January 9, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | - | - | - | 60 | - |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 55 | Yes | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 59 | Yes | Yes | 65 | Yes |
| January 10, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 54 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | No data was available due to extraneous weather during this period. | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 11, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | | | | | |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 60 | - | - | 65 | Yes |
| January 12, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 55 | 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

### 3.2.2 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 3.3 Typical vessel spectrum – noise level at L03*

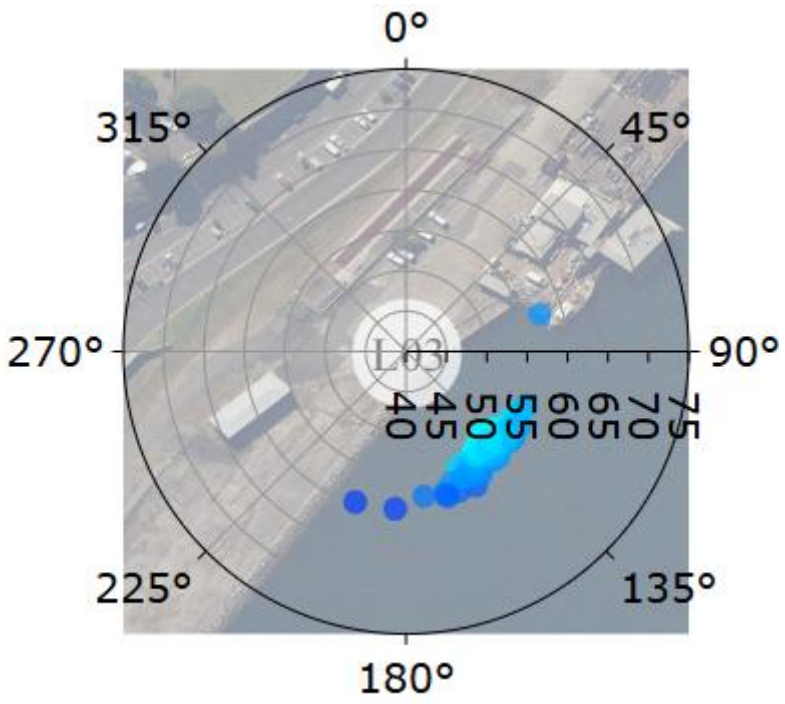



*Figure 3.4 Typical vessel polar (directional) plot*

## 3.3 CSL Reliance (GLB7) – January 15 – January 22, 2026

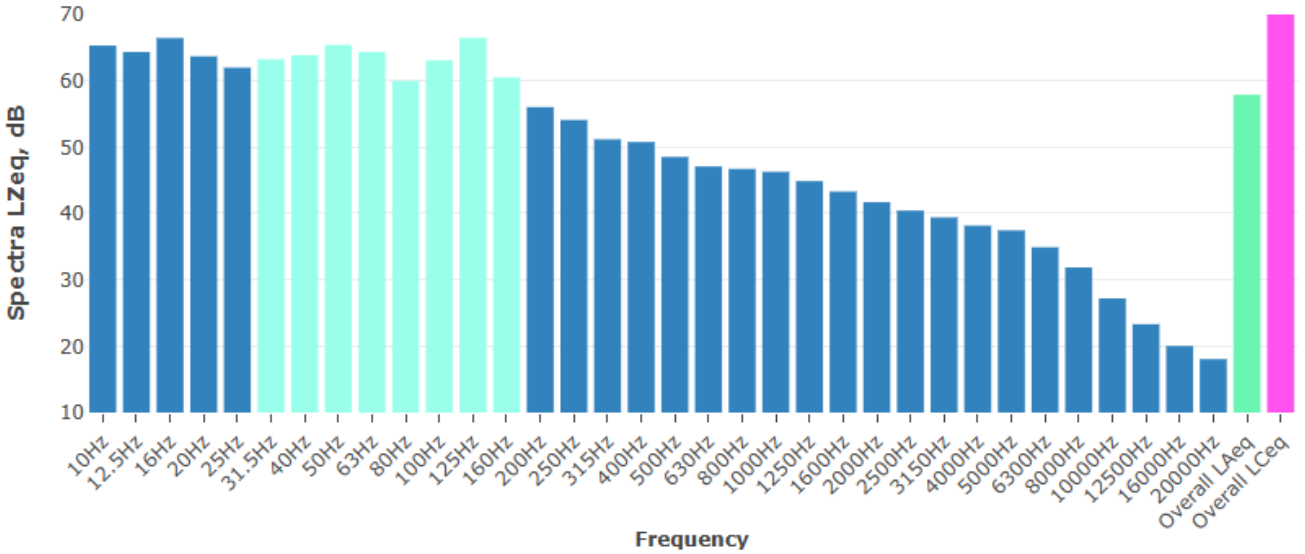
### 3.3.1 Daily noise monitoring results

| Date | Time period[1] | Monitor location | Noise descriptor | Vessel noise level dBA[2] | Tonal | LFN[3] | Vessel Noise Trigger Levels, dBA | Compliance |
|---|---|---|---|---|---|---|---|---|
| January 15, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 55 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 64 | - | - | 65 | Yes |
| January 16, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 55 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 63 | - | - | 65 | Yes |
| January 17, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | No data was available due to extraneous weather during this period. | | | | |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 18, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 56 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 54 | Yes[4] | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 53 | - | - | 65 | Yes |
| January 19, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 51 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 49 | Yes[4] | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 61 | - | - | 65 | Yes |
| January 20, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 57 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | -[5] | -[5] | -[5] | 55 | -[5] |
| | | | $L_{Amax}$ | -[5] | -[5] | -[5] | 65 | -[5] |
| January 21, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 53 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq,\ 1\ hour}$[1] | 53 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 59 | - | - | 65 | Yes |
| January 22, 2026 | Day | L03 | $L_{Aeq,\ 15\ hour}$[1] | 51 | 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) 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
5) The system was not operational during this period.

## 3.3.2 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 3.5 Typical vessel spectrum – noise level at L03*

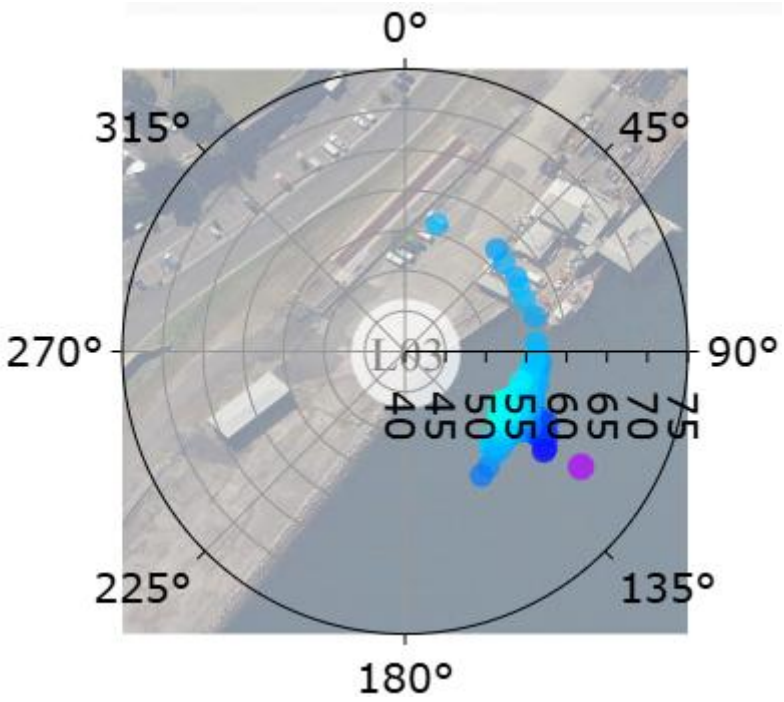



*Figure 3.6 Typical vessel polar (directional) plot*

# 3.4 Pioneer (GLB7/WHT4) – January 27 – January 31, 2026

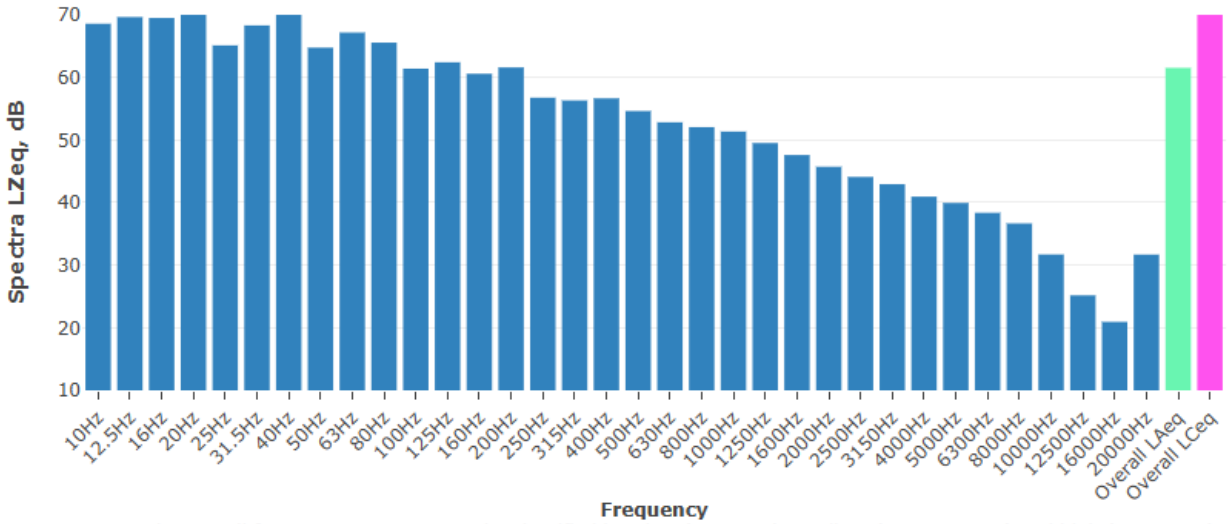
## 3.4.1 Daily noise monitoring results

| Date | Time period[1] | Monitor location | Noise descriptor | Vessel noise level dBA[2] | Tonal | LFN[3] | Vessel Noise Trigger Levels, dBA | Compliance |
|---|---|---|---|---|---|---|---|---|
| January 27, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 52 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | Pioneer (GLB7/WHT4) and Luga (GLB8) were both present at this time. See discussion in Section 3.5.2 below. Noise from the Luga was dominant at during this period and have been assigned to this vessel | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 28, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | | | | | |
| | Night | | $L_{Aeq, 1\ hour}$[1] | | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 29, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | | | | | |
| | Night | | $L_{Aeq, 1\ hour}$[1] | | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 30, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | | | | | |
| | Night | | $L_{Aeq, 1\ hour}$[1] | | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 31, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | | | | | |
| | 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

## 3.4.2 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 3.7 Typical vessel spectrum – noise level at L03*

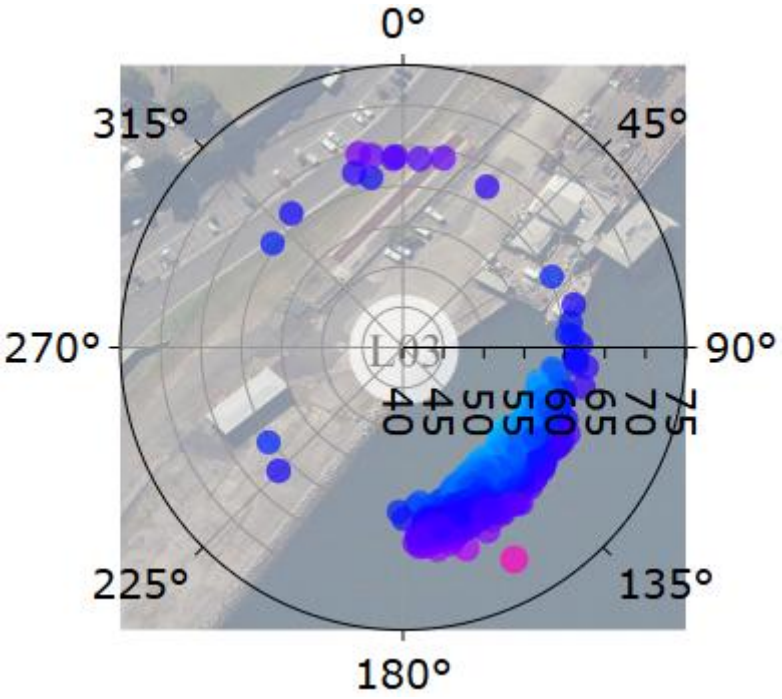



*Figure 3.8 Typical vessel polar (directional) plot*

## 3.5 Luga (GLB8) – January 27 – February 6, 2026

### 3.5.1 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 |
|---|---|---|---|---|---|---|---|---|
| January 27, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | The noise monitoring at L03 was not operational at this time. Results for the rest of the visit are considered representative. | | | | |
| | Night | | $L_{Aeq, 1\ hour}$[1] | | | | | |
| | | | $L_{Amax}$ | | | | | |
| January 28, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 55 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 54[4] | No | Yes | 55 | Yes[4] |
| | | | $L_{Amax}$ | 59 | - | - | 65 | Yes |
| January 29, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 53 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 54[4] | Yes[5] | Yes | 55 | Yes[4] |
| | | | $L_{Amax}$ | 57 | - | - | 65 | Yes |
| January 30, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 52 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 62 | - | - | 65 | Yes |
| January 31, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 52 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 50 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 58 | - | - | 65 | Yes |
| February 1, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 56 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 65 | - | - | 65 | Yes |
| February 2, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 56 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 65 | - | - | 65 | Yes |
| February 3, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 58 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 62 | - | - | 65 | Yes |
| February 4, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 55 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 49 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 51 | - | - | 65 | Yes |
| February 5, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 51 | No | Yes | 60 | Yes |
| | Night | | $L_{Aeq, 1\ hour}$[1] | 55 | No | Yes | 55 | Yes |
| | | | $L_{Amax}$ | 63 | - | - | 65 | Yes |
| February 6, 2026 | Day | L03 | $L_{Aeq, 15\ hour}$[1] | 54 | 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) The online system indicated levels of 56 dBA at night time, exceeding the night time trigger level. Given 2 vessels were present, a detailed assessment has been undertaken. The Luga noise levels have been updated in this table based on the assessment. See discussion in Section 3.5.2 below.
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

## 3.5.2 Discussion regarding Pioneer and Luga

From 27 January to 31 January, the Pioneer (GLB7/WHT4) and Luga (GLB8) were simultaneously at berth. During this period, the Luga had higher noise levels, therefore the noise monitoring system attributed the measured noise levels to this vessel. 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.

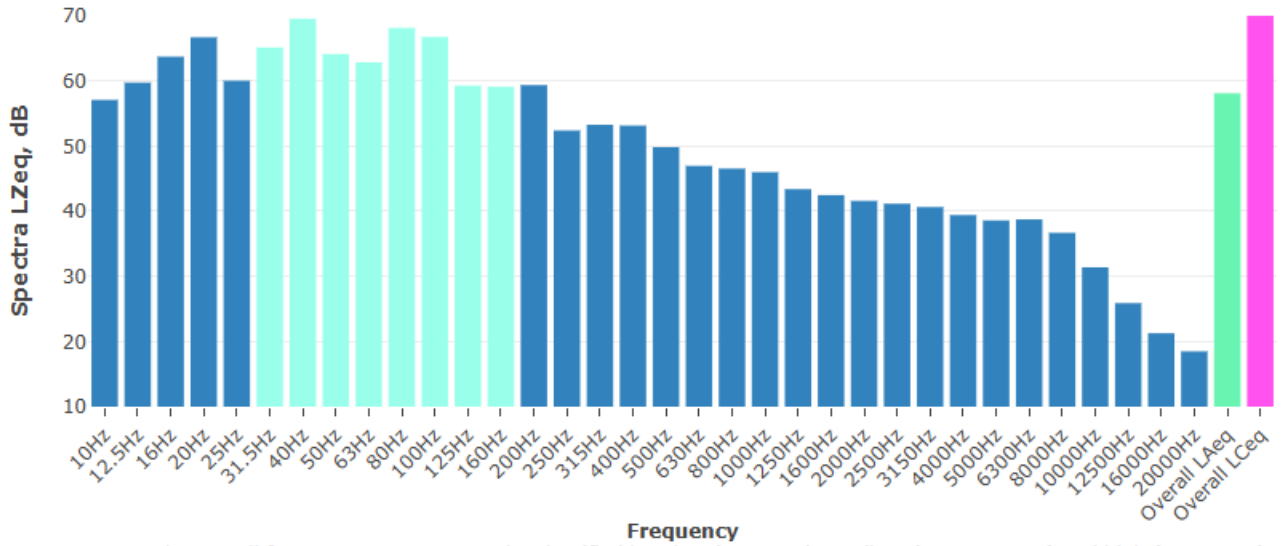
A review of the data was undertaken from this period, along with previously measured data. The Luga contribution has been estimated based on the following:

- Analysis of the measured noise levels from historical visits of the Pioneer and Luga when berthed separately
- Analysis of the measured noise levels from 27 January to 31 January when both the Pioneer and Luga were berthed.
- Analysis of the measured noise levels from 31 January to 6 February of the Luga once Pioneer had departed.

The estimated Pioneer contribution is as follows:

| Assessment period | Estimated contribution, dBA |
|---|---|
| Day | 51 |
| Night | 50 |

## 3.5.3 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 3.9 Typical vessel spectrum – noise level at L03*

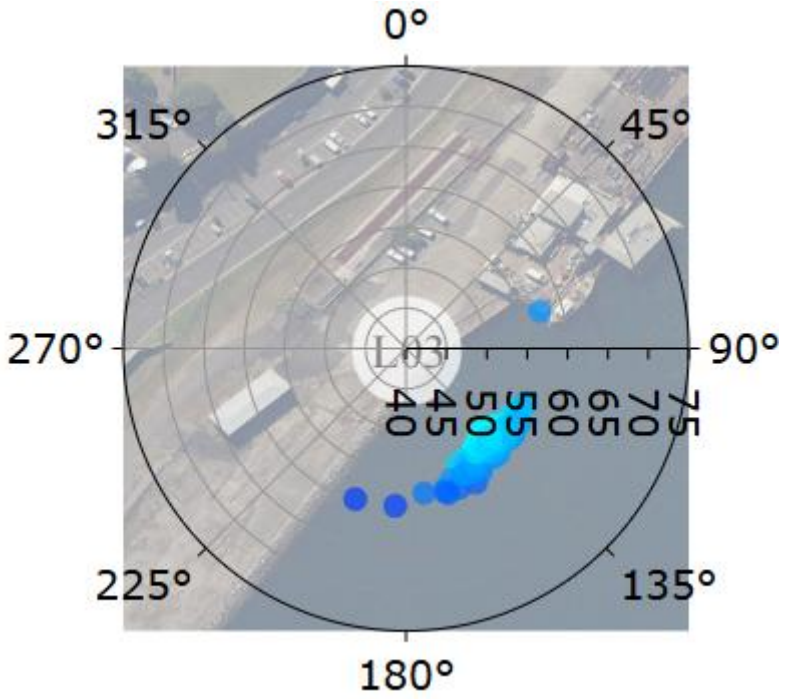



*Figure 3.10 Typical vessel polar (directional) plot*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