
EPA investigation into noise levels emitted from the Port Botany precinct

A number of major industries in the Port Botany precinct operate 24 hours a day, seven days a week. The Environment Protection Authority (EPA) recognises there is community concern about current levels of port and industry noise and also the potential for noise increases associated with future growth in port activity.

Local residents have informed the EPA that they believe noise levels have increased in recent years.

In July 2013, a resident in Wassell Street, Matraville asked the EPA to measure noise from the Port Botany precinct. In response, the EPA installed a noise logger on the resident's balcony and measured levels over a 10-day period.

The equipment automatically measured levels continuously and recorded audio samples when manually activated by the resident.

Technical noise specialist officers from the EPA's Noise Assessment Unit analysed the results for background and ambient noise levels. 'Ambient' noise is the measure of the total noise from all sources, while 'background' levels represent the quietest 10% of the total noise levels measured during the monitoring period.

The EPA's officers also analysed a selection of audio recordings to identify the maximum levels of specific sounds, such as 'clunks' (attributed to the sounds of shipping containers being moved) and 'beeps' (attributed to reversing beepers or movement alarms).

These specific sounds were measured against sleep disturbance screening criteria (outlined in the [NSW Industrial Noise Policy](#)) to determine if they are likely to disturb people's sleep stages.

In summary, the results found:

- Background noise levels in 2013 were consistent with those measured in 2002.
- The results were inconclusive about whether the criteria for industrial noise were exceeded as the monitoring was conducted from a private residence and was not operator-attended. The method used did not separate industrial noise from other noise sources. However, it is worth noting that the average noise readings from all sources combined (i.e. industry, traffic, domestic) did not exceed the maximum Industrial Noise Policy levels.
- High-noise events exceeded sleep disturbance criteria on two occasions.

These results provide an important baseline for assessing changes in noise levels from Port Botany over time.

Notwithstanding the results, the EPA acknowledges that noise from Port Botany is a problem that affects community members. It is a long-standing and complex issue that requires management through reasonable and achievable industry controls and a responsive approach by all regulators for Port Botany, including the EPA, local councils, Department of Planning and Environment and NSW Ports.

The EPA supports the need for a noise abatement strategy to establish a framework for investigating how noise from Port Botany may be managed into the future. The EPA is working on this issue with the Port Authority of NSW – Sydney Ports, NSW Ports – Port Botany, Botany and Randwick councils, operators of port activities and the NSW Department of Planning and Environment.

Results from the July 2013 monitoring and historical data

Background noise levels

A comparison of the rating background noise levels measured between 10 and 19 July 2013 with those measured in 2002 found that the two sets of background noise levels were similar.

Table 1

| Location | Day (7am–6pm) | Evening (6pm–10pm) | Night (10pm–7am) |
|-------------------------------------|------------------|-----------------------|---------------------|
| Wassell Street, Matraville (2013) | 39* | 41 | 41 |
| Jennings Street, Matraville (2002) | 40 | 39 | 40 |
| Australia Avenue, Matraville (2002) | 42 | 40 | 42 |

* Values are measured as decibels (dBA)

Ambient noise levels

Table 2 shows the noise levels recommended by the Industrial Noise Policy (INP) and average results from 2002 and 2013. It is worth noting that the monitoring at Wassell Street ran continuously and was not operator-attended, so industrial noise was not separated from other noise sources. However, the INP-recommended levels in the first two rows of Table 2 represent the measure for *industrial noise* only.

Table 2: INP levels and average values in 2002 and 2013

| | Day | Evening | Night |
|--|-----|---------|-------|
| <i>INP-recommended acceptable noise level</i> | 60* | 50 | 45 |
| <i>INP-recommended maximum noise level</i> | 65 | 55 | 50 |
| Wassell Street, Matraville (July 2013) – average ambient noise level | 53 | 49 | 48 |
| Jennings Street, Matraville (2002) – average ambient noise level | 53 | 48 | 51 |
| Australia Avenue, Matraville (2002) – average ambient noise level | 59 | 53 | 49 |

* Values are measured as decibels (dBA)

Table 3 shows the noise levels recorded on each day of the 10-day monitoring period. On one of the 10 nights, the INP-recommended maximum level was exceeded by 0.1 dBA. However, the results were inconclusive on whether the criteria for the INP-recommended maximum level was exceeded on this night because the noise readings represent the levels measured from all noise sources combined (i.e. industry, traffic, domestic) not just industrial noise.

Table 3: Daily ambient noise levels at Wassell Street, July 2013

| Date | Day | Evening | Night |
|----------------|-----------|-----------|-----------|
| Wed 10 July | n/a | 49.1* | 47.7 |
| Thurs 11 July | 53.1 | 49.1 | 50.1 |
| Fri 12 July | 55.9 | 46.9 | 47.9 |
| Sat 13 July | 52.3 | 46.9 | 47.9 |
| Sun 14 July | 51.9 | 47.9 | 45.7 |
| Mon 15 July | 52.9 | 48.5 | 47.1 |
| Tues 16 July | 51.6 | 48.2 | 47.4 |
| Wed 17 July | 52.0 | 49.1 | 46.7 |
| Thurs 18 July | 52.0 | 49.5 | 46.9 |
| Fri 19 July | 54.6 | 52.0 | 47.1 |
| Average | 53 | 49 | 48 |

* Values are measured as decibels (dBA)

Note: Results updated in August 2014 following re-analysis – the night value for Wednesday 10 July has been corrected from 51.0 to 47.7 dBA; the evening value for Tuesday 16 July has been corrected from 46.5 to 48.2 dBA; and the night value for Friday 19 July has been corrected from 47.0 to 47.1 dBA. These changes do not affect the average levels.

Sleep disturbance levels

High-noise events (clunks and beeps), subjectively described by the resident as ‘average’, were analysed in an audio sample from Saturday 13 July 2013. Two of 11 events exceeded the INP’s sleep disturbance screening criteria. The formula for the sleep disturbance criteria is the average measurement of the background noise (41 dBA in this instance) + 15 dBA. This gave a measure of 56 dBA. (Note: Results updated in August 2014 following re-analysis.)

Table 4

| Event type | No. of events measured | Time of event (monitored on Sat 13 July 2013) | Maximum level range (dBA) |
|---------------|------------------------|---|---------------------------|
| Clunks | 11 | 04:16:40.3 – 04:41:34.7 | 52.4 – 58.8* |
| Beeps | 3 | 04:27:35 – 04:34:36 | 47.5 – 48.9 |

* Values represent measured maximum levels of the selected samples of audible clunks and beeps in decibels (dBA)

Historical noise levels

In addition to analysing the noise logger’s results from July this year, the EPA undertook an analysis of noise data collected by a licensee since 2004. The data trend from three monitoring locations in the Port Botany precinct indicates consistent noise levels over the past decade.

More information

For more information or a detailed report of the results, email the EPA Botany Area Community Information Group at info.botany@epa.nsw.gov.au. The INP is available at www.epa.nsw.gov.au/noise/industrial.htm

About the EPA

The EPA is an independent statutory authority and the principal environmental regulator in NSW. It leads the state's response managing a diverse range of activities that can impact on the health of the NSW environment and its people, using a mix of tools including education, partnerships, licensing and approvals, audit, enforcement and economic mechanisms. The EPA performs the following functions:

- regulates air, water and noise pollution, waste, forestry, coal seam gas mining, contaminated sites, radiation, dangerous goods, hazardous material and pesticides
- develops, implements and evaluates policies and strategies to mitigate environmental impacts and minimise the community's exposure to risks from air pollution, noise, pesticides, waste and hazardous materials
- monitors emerging environmental issues and develops appropriate responses to prevent or minimise adverse impacts through early intervention
- administers the Waste and Environment Levy and load-based licensing which drives environmental improvement
- works with industry to implement pollution reduction programs using best practice technologies to enhance environmental performance, reduce emissions and improve process efficiency
- investigates breaches of legislation and undertakes strategic compliance and enforcement
- reforms the regulatory framework for environment protection to strengthen its effectiveness, minimise red tape and optimise compliance costs
- responds to incidents and investigates reports of environmental harm received from the public and industry
- promotes responsible behaviours and educates the community and industry about the benefits of waste minimisation, increasing recycling and reducing littering.

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