MATTHEW PALAVIDIS
VICTOR FATTORETTO
MATTHEW SHIELDS

Royal Prince Alfred Hospital Redevelopment (RPAH Redevelopment)

Construction Noise and Vibration Monitoring Report 11

Client Doc. No. RPA-ACO-ACL-RPT-MW-000014 - Rev A

SYDNEY
9 Sarah St
MASCOT NSW 2020
(02) 8339 8000

ABN 98 145 324 714
www.acousticlogic.com.au

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TABLE OF CONTENTS

1 INTRODUCTION

This report presents the results of the noise and vibration monitoring conducted by Acoustic Logic during the site establishment works for the RPA Hospital redevelopment, located at 50 Missenden Road, Camperdown. Details presented in this report include monitoring locations, relevant noise and vibration objectives, measured noise and vibration levels over the presented monitoring period and a discussion of results where applicable.

This report covers the eleventh fortnight since the beginning of construction monitoring, being between Monday 29th April, 2024 and Sunday 12th May, 2024.

Unattended noise and vibration monitoring has been undertaken to satisfy the requirements of Condition B26 of SSD-47662959's Development Consent, in conjunction with the noise and vibration management levels established within the *Early Works Construction Noise and Vibration Management Plan*, prepared by this office, and as they are so updated throughout the construction process where necessitated (Ref: 20230239.9/0610A/R1/LA). Condition B26 of SSD-47662959's Development Consent is provided below for reference:

> *"**Environmental Management Plan Requirements***
>
> ***B26**. Management plans required under this consent must be prepared having regard to the relevant guidelines, including but not limited to the Environmental Management Plan Guideline: Guideline for Infrastructure Projects (DPIE April 2020).*
>
> *Notes:*
>
> *The Environmental Management Plan Guideline is available on the Planning Portal at: https://www.planningportal.nsw.gov.au/major-projects/assessment/post-approval.*
>
> *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans."*

2 SITE DESCRIPTION

The site is maintained on Lot 1000 DP 1159799, and is bound by the existing operational RPA Hospital to the west, the Centenary Institute to the north, and University of Sydney's Bruce William Pavilion and Susan Wakil Health Building to the east and south respectively. The site is surrounded by various residential, commercial, hospital, university, research and active recreation sensitive receivers generally.

The works maintained within Early Works and Site Establishment pertain specifically to works along Lambie Dew Drive and John Hopkins Drive.

The surrounding affected sensitive receivers that are investigated within the contents of this monitoring assessment are as presented below:

Table 1 – Surrounding Sensitive Receivers

ID No.	Receiver Description	Receiver Category
H1	RPA Hospital Main Building	Hospital
Re1	Centenary Institute	Research Facilities
E1	CreateSpace and Susan Wakil Health Building	Education
E2	Charles Perkins Centre	

See an aerial photo in Figure 1 below for detailed receiver locations.

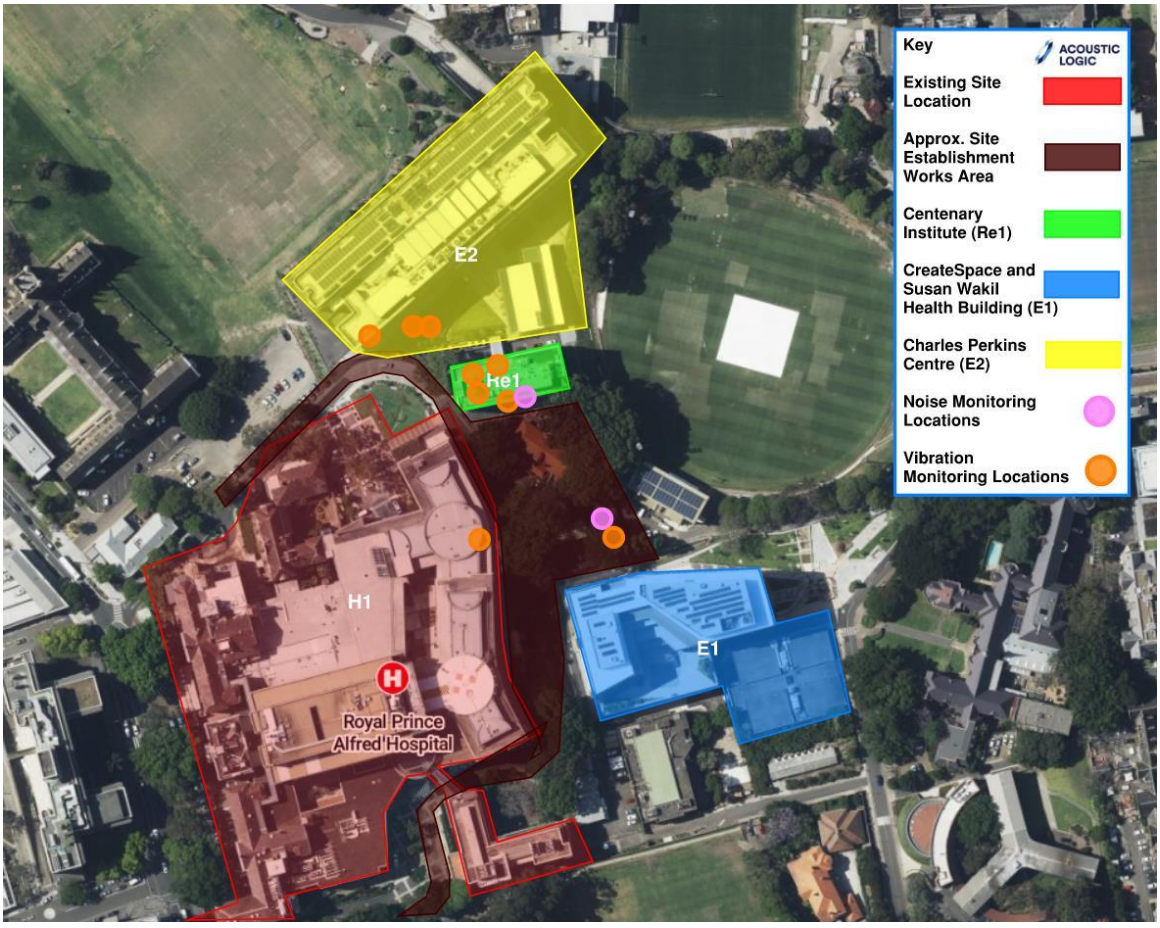


Figure 1: Aerial Site Map with Nearest Sensitive Receivers (Sourced from Sixmaps)

3 NOISE AND VIBRATION MANAGEMENT LEVELS

The following section details the relevant construction noise and vibration requirements assessed throughout the monitoring period.

3.1 NOISE MANAGEMENT LEVELS

Noise Management levels relevant to the contents of this report are summarised in the table below, as provided within the *Early Works Construction Noise and Vibration Management Plan*, prepared for the project by this office (Ref: 20230239.9/0610A/R1/LA). Note that based upon measurements and discussions with relevant stakeholders on 12/03/2024, the Noise Management Level for the Animal Housing, Breeding and Observation Rooms within Centenary Institute will be reduced to 62dB(A) $L_{eq(15\ min)}$, and this will be adopted within this report, as well as further subsequent assessments:

Table 2 – Noise Management Levels

Receiver	Room Usage	Noise Management Level dB(A) $L_{eq(15min)}$
H1	NICU	60 (Internally)
E1 and E2	All	45 (Internally)
R1	Animal Housing / Breeding / Observation Rooms	62 (Internally)
	Rat Operating Room	48 (Internally)

3.2 PROJECT VIBRATION CRITERIA

Relevant project vibration criteria to the contents of this report are provided within the table below. Vibration criteria presented for spaces within Re1 and E2 have been updated based upon the conclusion of the "Baseline Monitoring Results," report, as well as the "Construction Noise and Vibration Monitoring Report 1," both of which were prepared by this office for the project (Ref: 20230239.17/0412A/R1/LA and 20230239.17/2301A/R0/LA). Supplementarily, further correspondence between Charles Perkins Centre and the project team on 20/02/2024 has resulted in the reduction of criteria within the animal spaces on B2 to VC-A criteria, and this is reflected within the table below and has been in effect through this monitoring period:

Table 3 – Summarised Proposed Project Vibration Limits

Receiver	Location	Vibration Criteria (μms^{-1})
Re1 Centenary Institute	L3 Fish Tank Room	400 μms^{-1} Peak Particle Velocity
	L4 – Animal Behaviour / Holding / Breeding Rooms	VC-A (ASHRAE Handbook) (50 μms^{-1}) RMS Velocity
E1 Createspace and Susan Wakil Health Building	All spaces	DIN 4150-3 Type 1 Criteria (20,000 μms^{-1} / 20mms^{-1}) Peak Particle Velocity
E2 Charles Perkins Centre	Imaging Equipment (Southern Wing Corridor)	VC-B (ASHRAE Handbook) (25 μms^{-1}) RMS Velocity
	Animal Behaviour / Holding / Breeding Rooms	VC-A (ASHRAE Handbook) (50 μms^{-1}) RMS Velocity
H1 RPA Hospital Main Building	Operating Theatres (Level 3)	100 μms^{-1} RMS Velocity

4 MONITORING EQUIPMENT AND LOCATIONS

4.1 NOISE MONITORING EQUIPMENT AND LOCATIONS

Unattended noise monitoring was conducting using Acoustic Research Laboratories Pty Ltd noise loggers. The loggers were programmed to store 15-minute statistical noise levels throughout the monitoring period. The equipment was calibrated at the beginning and the end of each measurement using a Rion NC-73 calibrator; no significant drift was detected. All measurements were taken on A-weighted fast response mode.

Three individual noise monitors have been installed surrounding the site at the following locations:

- Centenary Institute Level 4 Surgery (Southern Façade).
- RPA Hospital Main Building – Level 03 NICU.
- Outside Susan Wakil Health Building, on grade.

Please refer to Figure 1 for detailed monitoring locations. Appendix C provides photos of the monitors installed at the project site.

4.2 VIBRATION MONITORING EQUIPMENT AND LOCATIONS

Vibration monitoring was conducted using either Texcel ETM vibration monitors with external Tri-axial Geophones, or Bruel and Kjaer Type 4450 vibration monitors.

Three Texcel ETM monitors have been placed surrounding the site at the following locations:

- Centenary Institute Level 3, Fish Tanks.
- Charles Perkins Centre Level B1, Southern Wing Observation Room E (Note that this monitor has been installed at this location to send alert messages at 100 μms^{-1} PPV vibration events, due to the limited reception achieved within the B2 area from the Bruel and Kjaer Type 4450 monitor installed to assess vibration impacts with respect to the VC-A vibration criteria curve within the animal holding area.
- Outside Susan Wakil Health Building, on grade.

Additionally, six Bruel and Kjaer Type 4450 Vibration monitors have been installed surrounding the site at the following locations:

- Centenary Institute:
    - Level 4 Surgery (Southern Façade).
    - Level 4 Change Rooms (Northern Façade)
    - Level 4 South-eastern Experimentation Room.
- Charles Perkins Centre:
    - Level B1, Southern Wing Corridor.
    - Level B1, Southern Wing Observation Room E
- RPA Hospital Main Building Level 3 NICU.

Please refer to Figure 1 for detailed monitoring locations.

5 RESULTS

Appendix A presents the results of the noise monitoring, whilst Appendix B presents the results of the vibration monitoring where exceedances occurred during the monitoring period as presented within the contents of this report.

A discussion pertaining the findings of the noise and vibration monitoring undertaken during this monitoring period is provided within the proceeding sections.

5.1 NOISE MONITOING RESULTS DISCUSSION

Noise monitoring conducted throughout the monitoring period shows general adherence to the noise management levels provided within Section 3 of this letter.

For the Holding, Breeding and Observation Rooms

- Noise levels were found to be above the NML for holding, breeding and observation rooms on 29/04 and 01/05, however these events were due to maintenance undertaken on the noise monitor by this office and were not caused by construction works.
- Noise levels were also found to be above the NML for holding, breeding and observation rooms on 06/05, however this event was noted by CI to be caused by internal operational activity within the Surgery Room, and was not caused by construction.
- No further measurements above the NML were experienced throughout the monitoring period.

For RPAH Main Building L03 NICU

- The monitor is located underneath a benchtop and against two individual walls within the NICU area on Level 03 of the hospital main building. Due to the reflections experienced at the monitoring location due to this, a 5dB correction has been conservatively applied to the noise levels measured at the monitoring station.
- Noise levels were observed to be measured above the NML within the NICU space for the following dates:
    - 29/04/2024.
    - 30/04/2024.
    - 02/05/2024.
    - 06/05/2024.
    - 08/05/2024.
    - 09/05/2024.
    - 10/05/2024.
- Noise levels were never observed to be above the NML for longer than one 15-minute period, and hence it is likely that these events were caused by internal operational activity within the space, as opposed to construction works, noting that construction works are typically continuous in nature.
- All other measured levels above the NML have been found to occur outside of construction hours.
- Ongoing monitoring to continue within the NICU space.

For the Susan Wakil Health Building

- The monitor located outside of the Susan Wakil Health Building is within the demolition site boundary and approximately 15m closer to the area of the works than the façade of the Susan Wakil Health Building.
- Noting this increased distance attenuation, in conjunction with the transmission loss experienced through the inoperable façade of the Susan Wakil Health Building when comparing internal and external noise levels, Acoustic Logic expect that, at minimum, there is a 30dB reduction between the measured noise levels by the monitor, when compared with the resultant internal noise levels within the receiver.
- This reduction is considered conservative due to the distance between the monitor and the building, and hence, the noise impacts would be further reduced than what is outlined below in reality.
- Notwithstanding, noise levels have been measured to be above the NML at the monitoring location on the following dates during the monitoring period:
    - 29/04/2024.
    - 30/04/2024.
    - 01/05/2024.
    - 02/05/2024.
    - 06/05/2024.
    - 10/05/2024.
- Noise levels impacting Susan Wakil will be continued to be monitored throughout the early works construction to assess the impact of this receiver.

5.2 VIBRATION MONITORING RESULTS DISCUSSION

With regards to the vibration measured vibration levels during the monitoring period, we note the following:

- Note that the graphs presented within the Appendix of this document show the maximum recorded velocity for each individual frequency within a given day's monitoring period.
- Data has only been provided for days in which exceedances attributed to vibration works have been experienced at the monitoring station.
- Acoustic Logic note that there have been no correlated exceedances observed between multiple monitoring stations throughout the monitoring period.
- The following section provides discussion pertaining the measured exceedances observed throughout the period at individual monitoring locations:
- Centenary Institute:
    - Level 1 – Laser Imaging Room (Electrical Cupboard):
        - Precision imaging equipment such as the laser scanning apparatus investigated by this monitoring station are impacted by vibration through impacts on output results.
        - This would hence be observed by operators of the equipment, whereby the system would not be operating correctly/results of the system would be impacted.

- To the knowledge of this office, no impacts on the results output of the equipment have been reported by Centenary Institute throughout the early works construction period.
- Further, and based upon onsite inspections and testing, AL note that the Laser room is subject to various sources of ambient vibration from the operation of the facility which contribute to the levels measured during construction, inclusive of refrigerant plant maintained within the basement of the facility.
- Where any changes to the operation / results of the laser scanning apparatus are observed by the operators of the equipment, this is to be relayed to this office for investigation and alignment with construction activity to appropriately assess and mitigate impacts.

o Level 3 – Fish Tanks:

- An exceedance of the CI L3 floorplate criteria was measured on 03/05/2024 at approximately 9.00am.
- This exceedance was measured as an approximate 36% exceedance of applicable criteria, and occurred at approximately 95Hz.
- It is unlikely that this exceedance was caused by construction, noting that exceedances were not measured by any of the other monitoring stations surrounding the site at the same time inclusive of the other CI monitors, and also that the frequency of the result is not typical of the works in which were being undertaken at the time (Mostly limited to material handling at the time).
- Notwithstanding, the impacts of ongoing works were reduced through the crushing of footings into smaller pieces to reduce the force of the footings hitting the truck.
- No further exceedances of applicable L3 criteria were measured throughout the monitoring period.

o Level 4 – Surgery Room (Southern Façade), Clean Changeroom (Southern Façade) and Bathroom (Northern Façade):

- An exceedance was measured by the Surgery Room monitor on 01/05/2024, however this was caused by maintenance to the monitor by this office and was not caused by construction activity.
- Similarly, multiple exceedances were measured by the Centenary Institute Clean Changeroom (Monitor formerly located in South-Eastern Corner Experimentation Room) on 02/05/2024, however these were also caused by monitor maintenance and were not the result of construction impacts.
- An exceedance of the CI L4 floorplate VC-A criteria was measured on 03/05/2024 at approximately 10.15am by both the Surgery Room and Northern Façade Bathroom monitoring stations.
- These exceedances were marginal in nature, measured as 52μms^{-1} and 54μms^{-1} for the monitors respectively at 10Hz. This presents as 4% and 8% exceedances of applicable criteria respectively.
- Further, the frequency at which the result was measured is below the resonant frequency response frequency for the animal's abdomen (27-29Hz), and hence it is unlikely that this resultant level would have caused any discernible change to animal behaviour in line with relevant research.

- It is noted that this exceedance was measured as a translational exceedance, and through site investigation and correspondence from the construction team, it was established that the result was likely caused by material handling and loading of footings into trucks.
- As a result of this exceedance, the impacts of ongoing works were reduced through the crushing of footings into smaller pieces to reduce the force of the footings hitting the truck.
- This mitigation strategy was found to be effective, noting that there were no further resultant exceedances measured at any of the CI L4 monitoring stations throughout the remainder of the monitoring period.

- Charles Perkins Centre:
  - Southern Corridor (Imaging):
    - Exceedances of B2 VC-B criteria which display characteristics consistent with construction activity were observed at the monitoring station on the following dates:
      - 29/04/2024 – 12.30pm, 3.45pm, 4.15pm.
      - 01/05/2024 – 10.00am.
      - 02/05/2024 – 7.30am.
      - 06/05/2024 – 8.15am.
      - 08/05/2024 – 12.45pm.
      - 09/05/2024 – 9.00am and 11.30am.
      - 10/05/2024 – 9.00am and 11.30am.
    - Exceedances are generally observed to result at up to a maximum of 100% of the VC-B criteria at a given frequency (Approximately measured at 50μms^{-1}). The maximum level measured during the monitoring period was 60μms^{-1} at 20Hz on 01/05/2024.
    - Exceedances are generally observed at 12.5Hz, likely to be the natural frequency of the CPC suspended slab. Exceedances at frequencies exclusive of 12.5Hz, 16Hz and 20Hz are rarely observed.
    - With regards to the monitoring period within the CPC Basement, we note the following:
      - Throughout the monitoring period, works have been generally restricted to two main areas:
        - Demolition within the pathology demolition area, and
        - Detailed excavation undertaken along John Hopkins Drive / Lambie Dew Drive.
      - When comparing the results of the B2 monitoring location with other surrounding monitors, we note that the B2 monitor is located on a suspended slab, and hence it is possible that significant amplification of the vibration impacts from these works is occurring and resulting in exceedances at the monitoring location.
      - Notwithstanding, and due to the lack of correlation between the significant spikes measured by the B2 monitor and exceedances at other monitoring stations surrounding the project site, it is likely that some or most of these spikes have

been caused by factors exclusive of the construction activity within the RPA Hospital project area.

- It is prudent to note that CPC is undergoing a façade refurbishment exclusive to the scope of the construction activity assessed within this report, and it is likely that these works attributed to some of the exceedances observed throughout the period.

- Observation Room E (Adjoining corridor):
  - Two exceedances of criteria were measured on 29/04/2024 and 06/05/2024. These exceedances were measured by the less-sensitive Texcel monitor but were not measured by the more-sensitive B & K monitor installed adjacent to the Texcel monitor.
  - Notably, these exceedances were not found to correlate with any recorded exceedance at any of the other monitoring stations surrounding the site, inclusive of the other CPC monitors.
  - This is not indicative of construction vibration, noting that construction-borne vibration would be expected to impact the monitors equally and similar results would be measured.
  - As the Texcel monitor is operating at it's floor of measurement, it is possible that a small perturbation measured by both of the monitors was artificially inflated by the Texcel monitor due to it's relatively lower accuracy and the relatively low vibration levels measured.
  - Alternatively, this may have been caused by operational activity within the facility such as a step or a trolley movement, which occurred closer to the texcel monitor however did not register an exceedance at the B & K monitor.
  - Exclusive of the above, there were no further exceedances measured throughout the monitoring period.

- RPA Hospital Main Building:
  - Level 03 NICU:
    - One exceedance was measured at the monitoring location on 09/05/2024, however this was measured outside of the construction hours for the project, and hence has not been attributed to construction works.
    - Exclusive of this, no other exceedances have been measured at this monitoring station throughout the monitoring period.

- Susan Wakil Health Building:
  - No exceedances of criteria were observed due to construction works during the monitoring period.

6 CONCLUSION

Noise and vibration monitoring has been conducted by Acoustic Logic for the Early Works being undertaken for SSD-47662959, the RPA Hospital Redevelopment, located at 50 Missenden Road, Camperdown.

This letter presents the results of the monitoring between the period of Monday 15th April, 2024 and Sunday 28th April, 2024.

Monitoring results have been provided with reference to the Noise and Vibration Management Levels established within the *Early Works Construction Noise and Vibration Management Plan*, prepared by this office, or as they have been updated throughout the construction process, specifically pertaining to the recommendations of the *Baseline Monitoring Results* and *Construction Noise and Vibration Monitoring Report 1*, both also prepared by this office (Ref: 20230239.9/0610A/R1/LA, 20230239.17/0412A/R1/LA and 20230239.17/2301A/R0/LA).

Noise monitoring results have been provided within Appendix A, whilst vibration monitoring results have been provided throughout Appendix B of this letter.

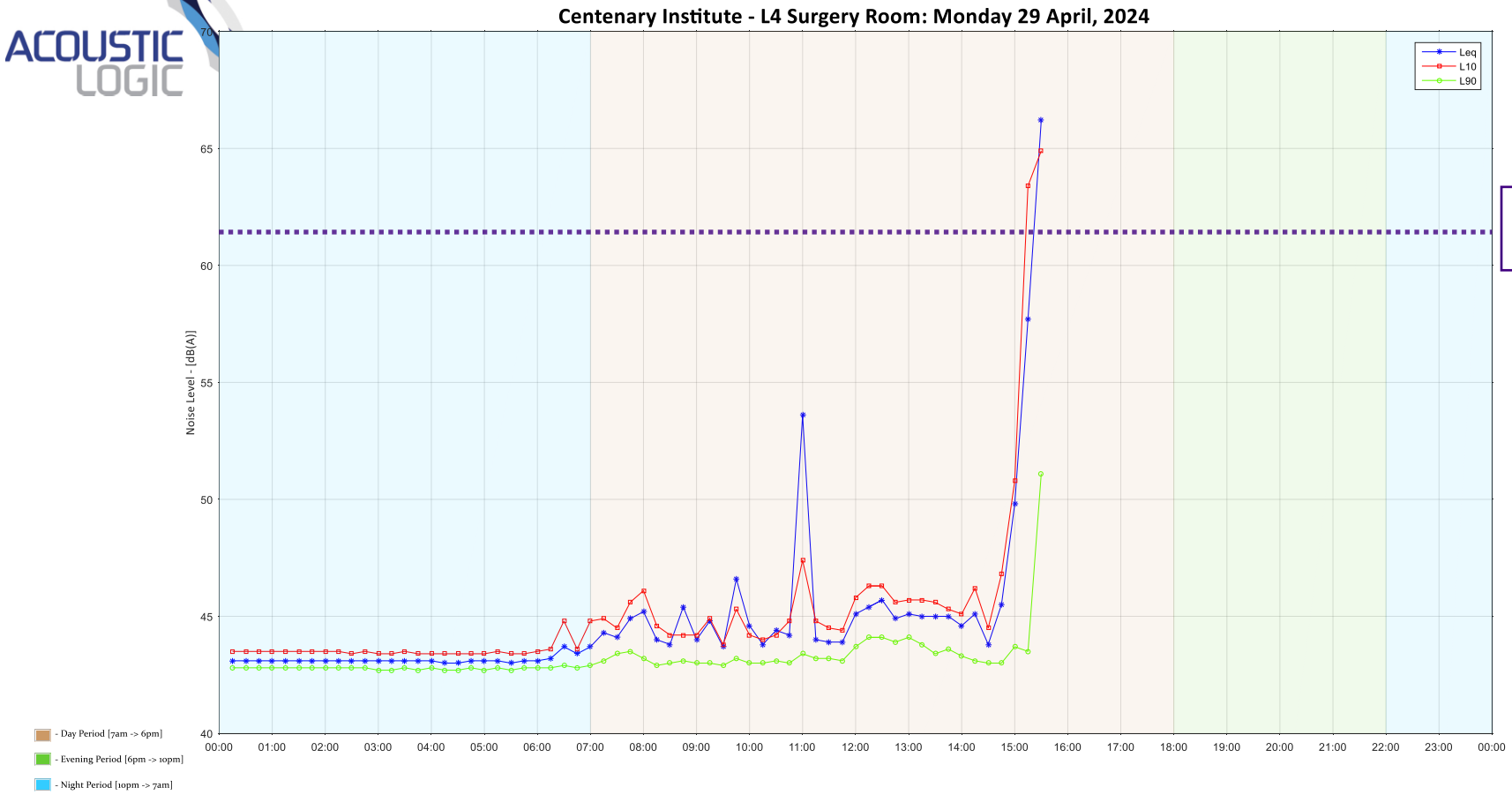
We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

Acoustic Logic Pty Ltd
Lachlan Abood

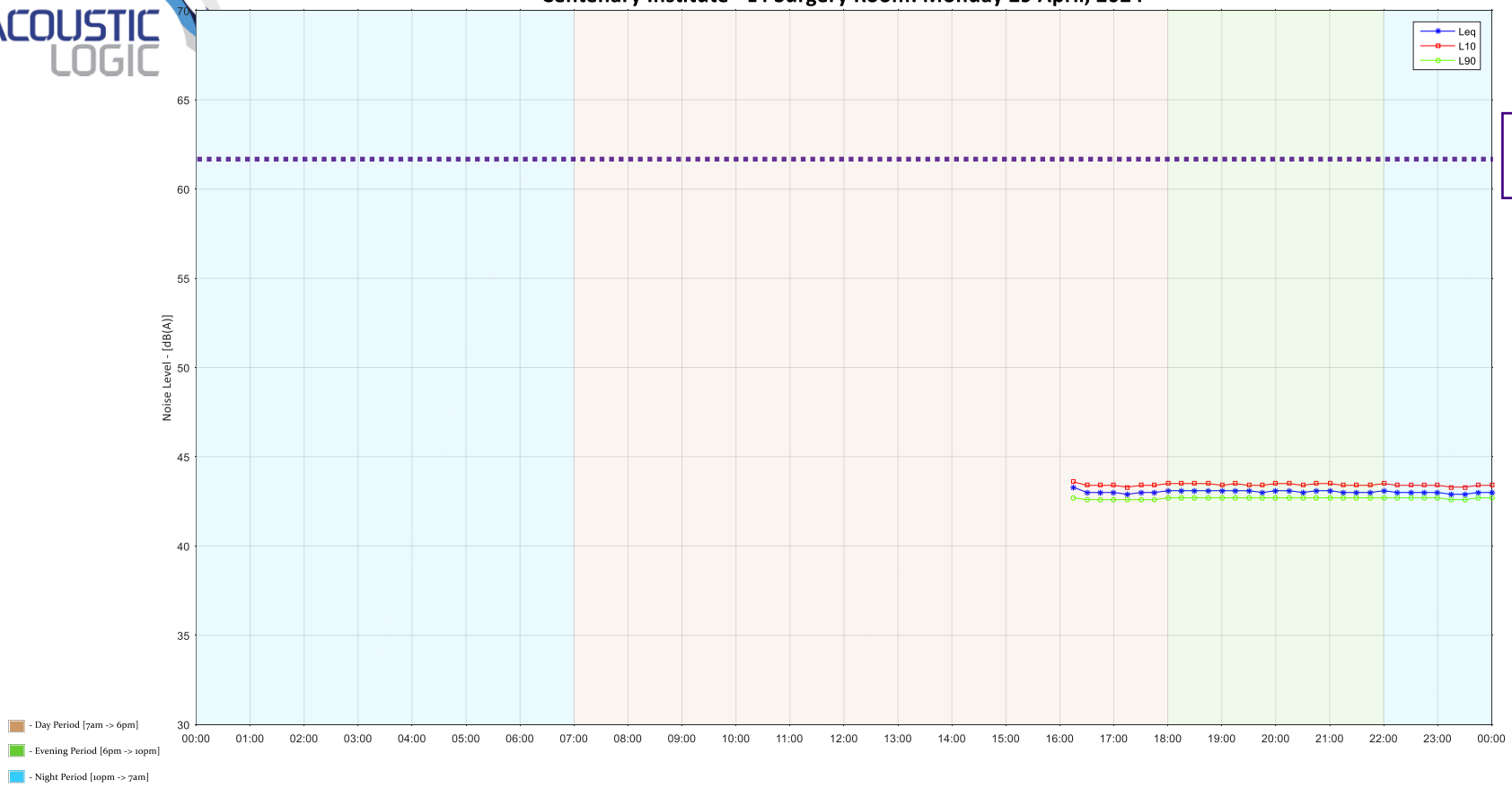
APPENDIX A – NOISE MONITORING RESULTS

CENTENARY INSTITUTE – LEVEL 4 SURGERY ROOM (SOUTHERN FAÇADE)

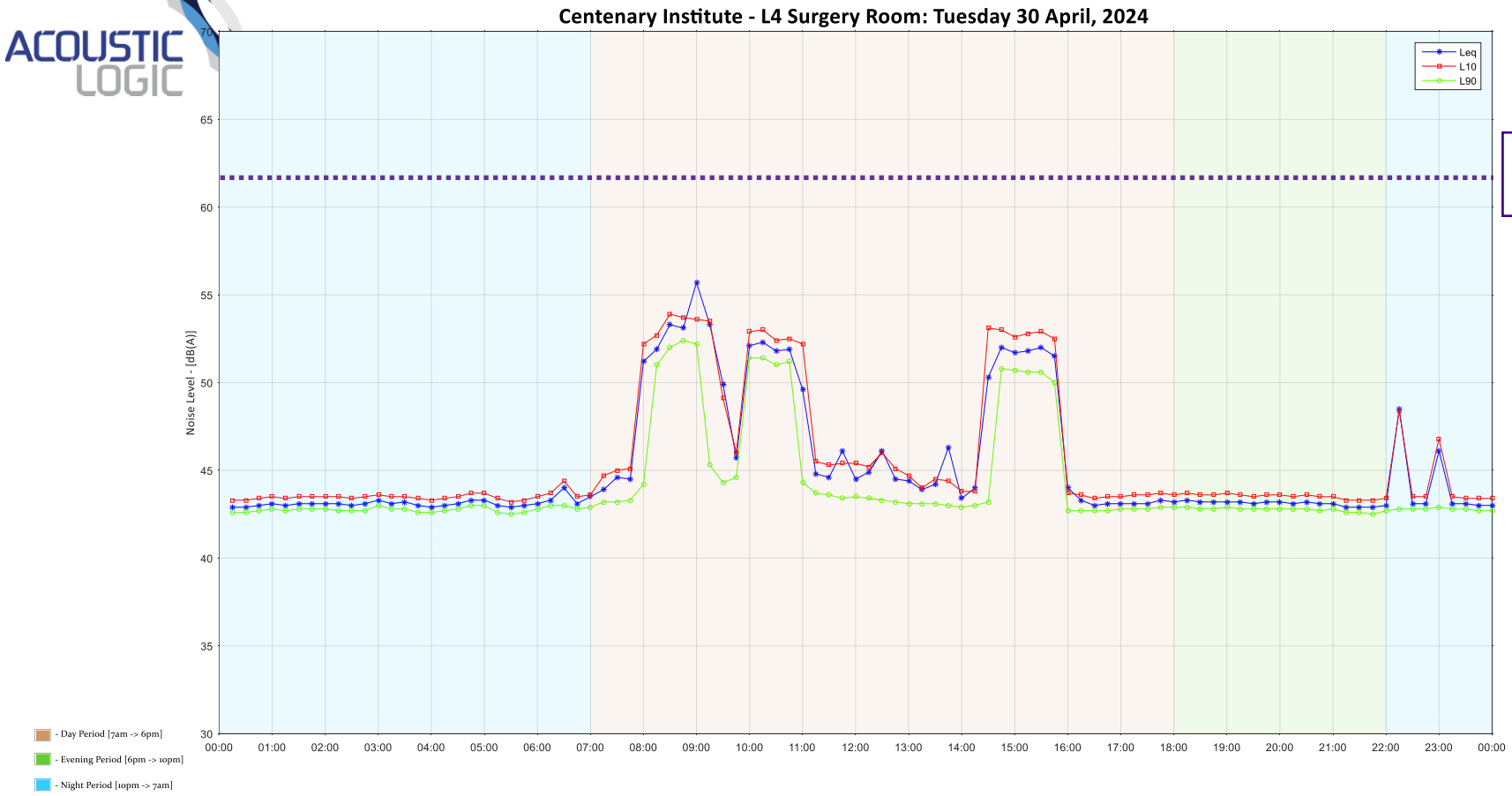


Animal Housing / Breeding / Observation Room NML
$\leq$ 62dB(A)L_{eq}

Centenary Institute - L4 Surgery Room: Monday 29 April, 2024



Animal Housing / Breeding / Observation Room NML ≤ 62dB(A)L_{eq}



Animal Housing / Breeding / Observation Room NML
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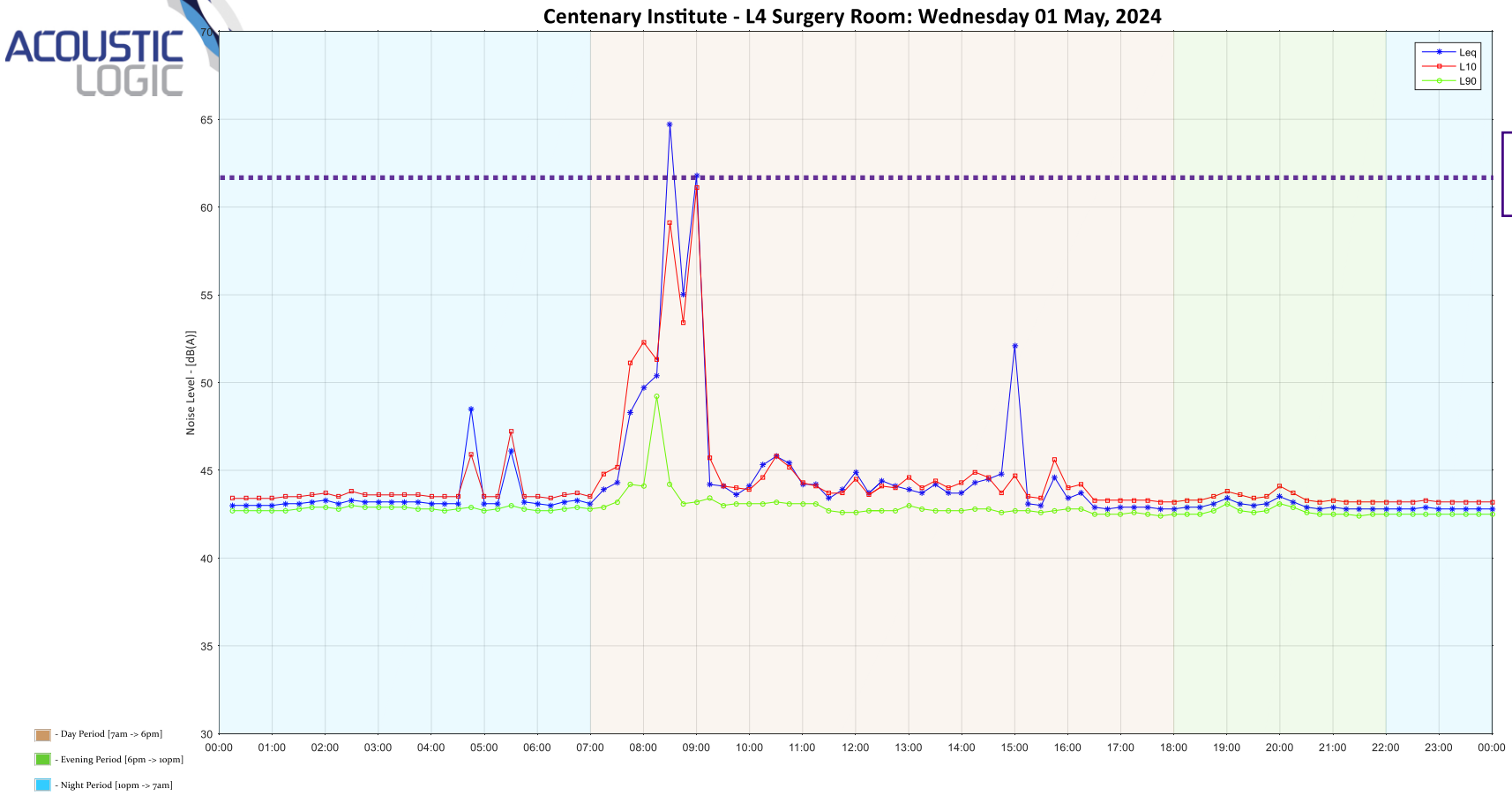

Animal Housing / Breeding / Observation Room NML
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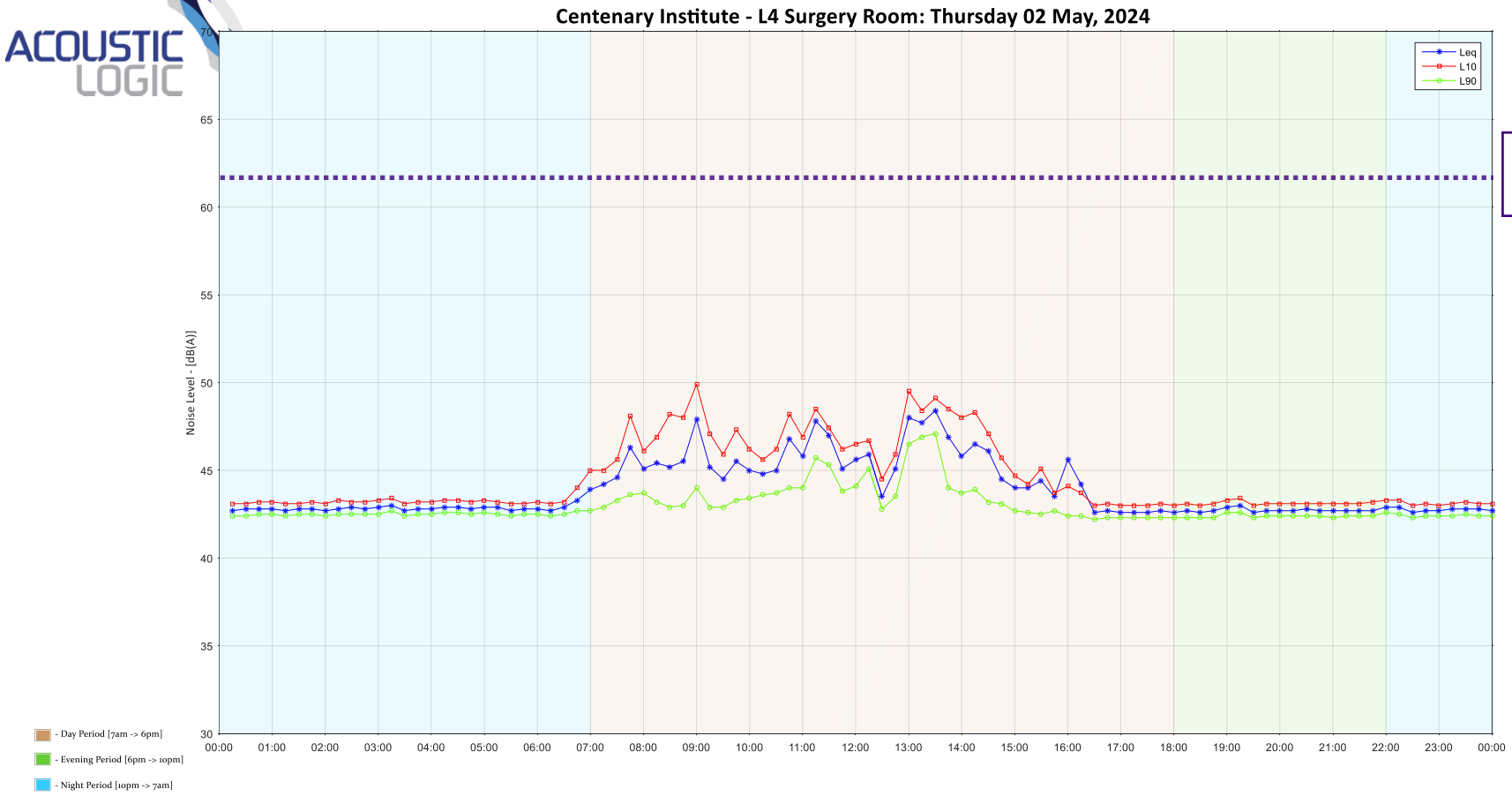
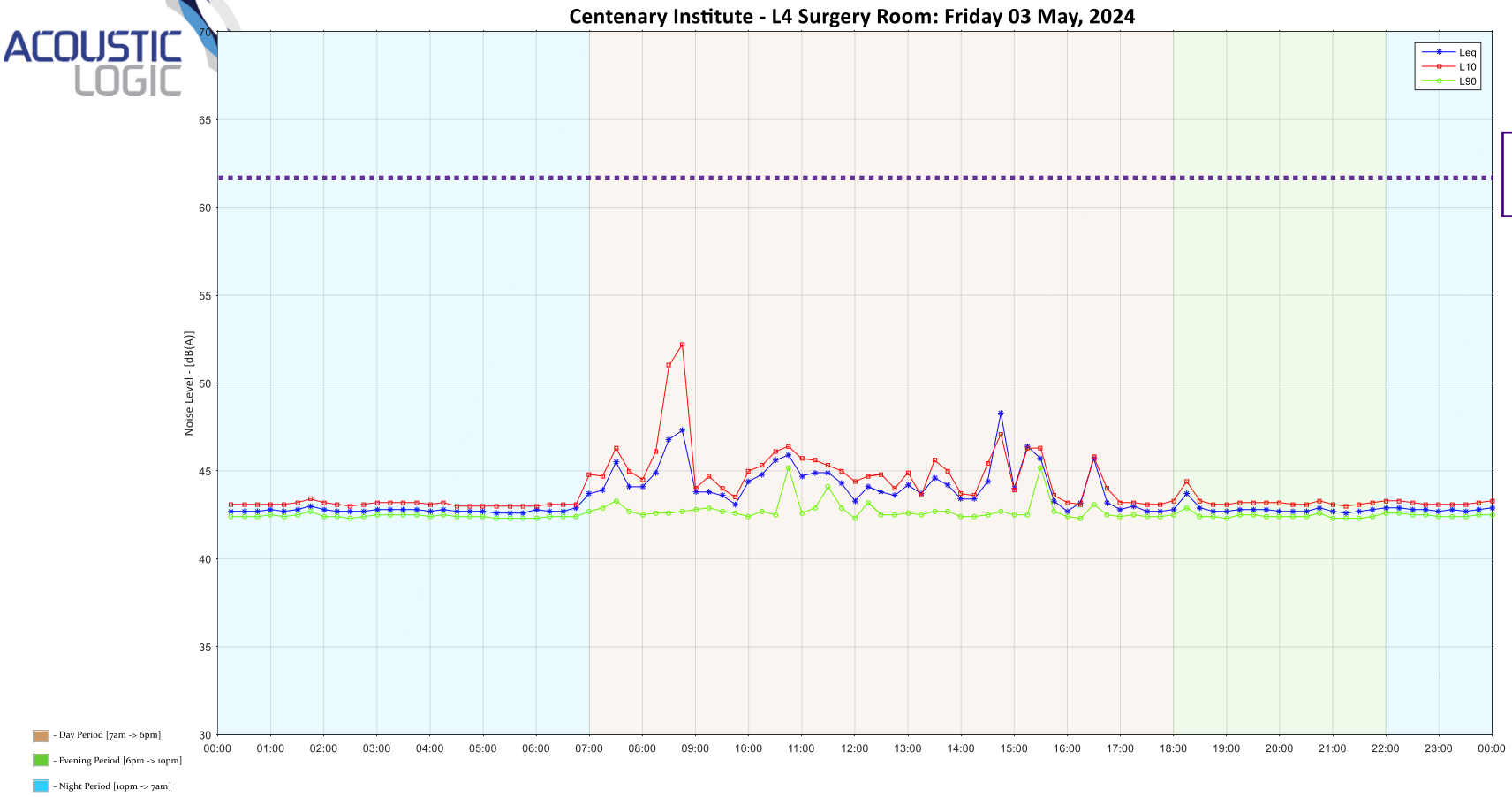
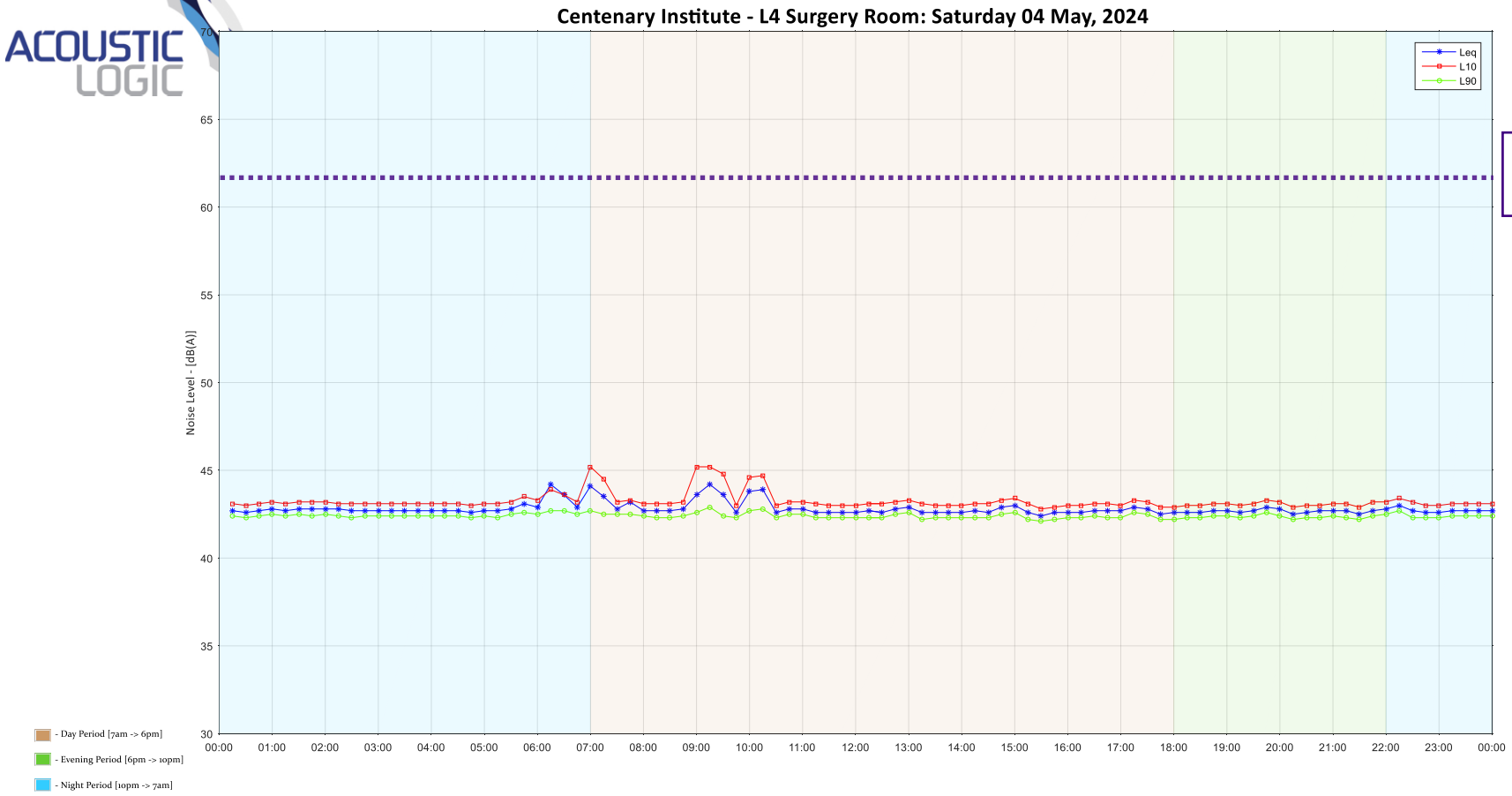


Animal Housing / Breeding / Observation Room NML ≤ 62dB(A)L_{eq}



Animal Housing / Breeding / Observation Room NML
≤ 62dB(A)L_{eq}



Animal Housing / Breeding / Observation Room NML
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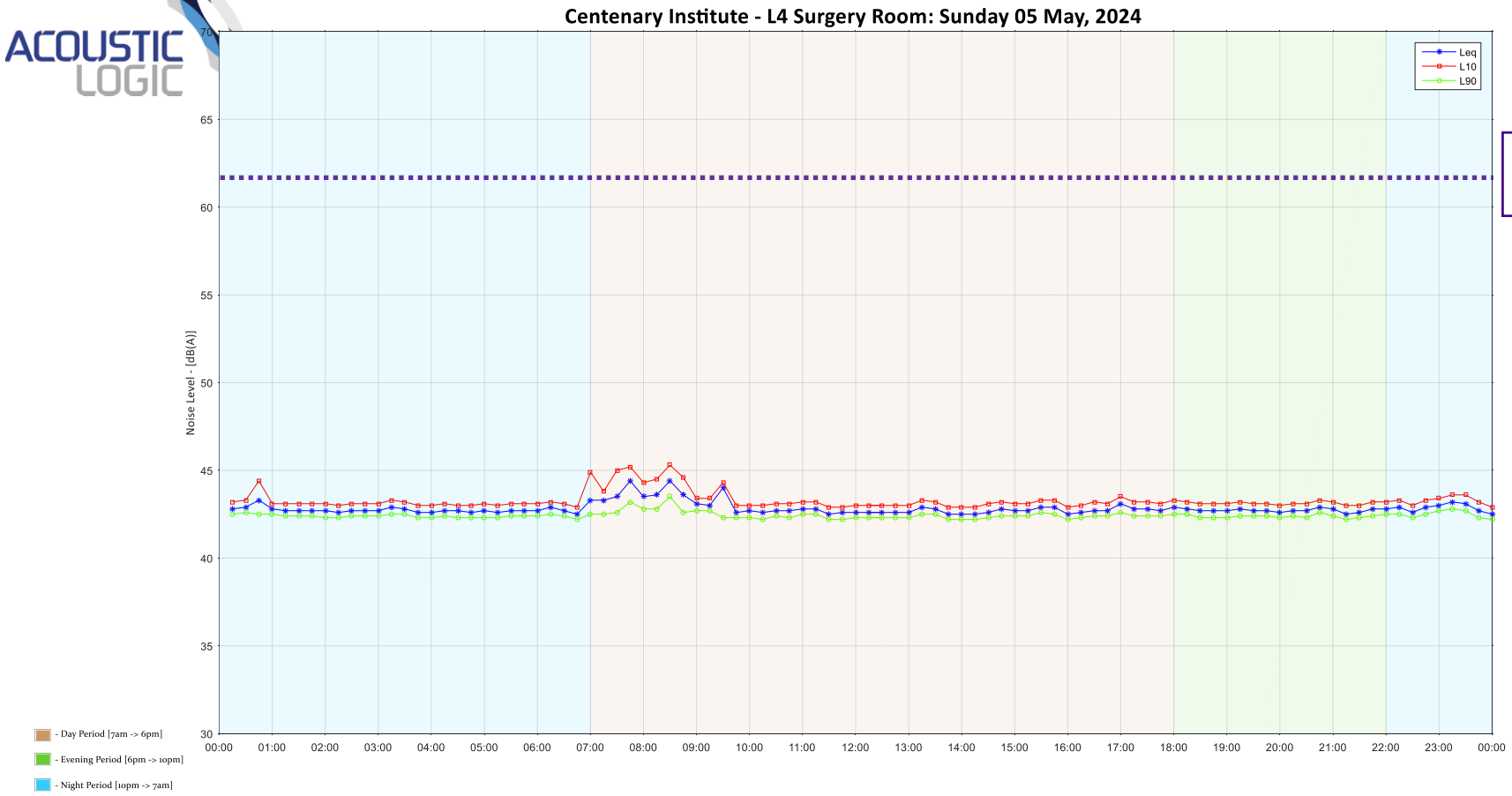
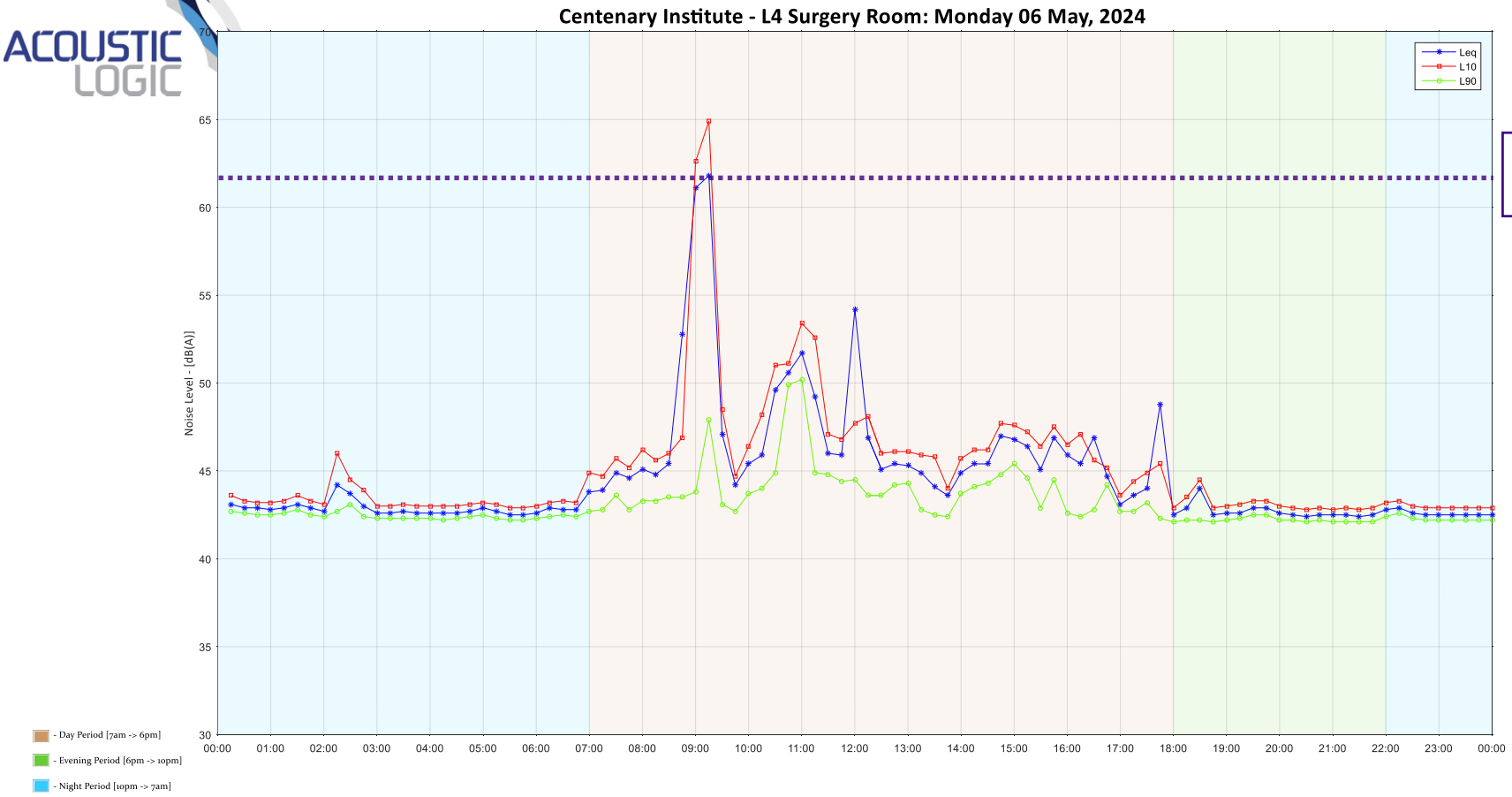


Animal Housing / Breeding / Observation Room NML
≤ 62dB(A)L_{eq}



Animal Housing / Breeding / Observation Room NML
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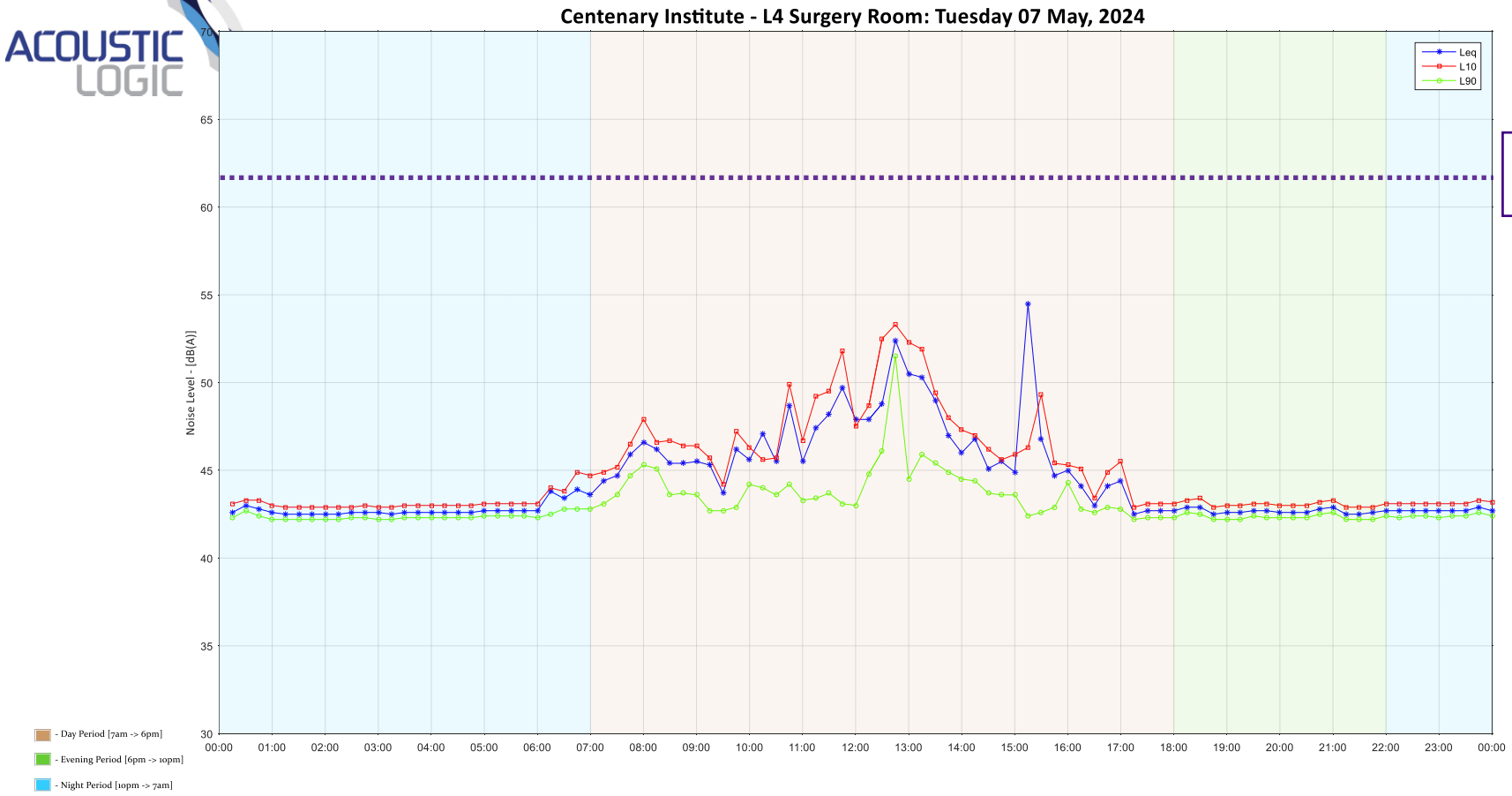

Animal Housing / Breeding / Observation Room NML
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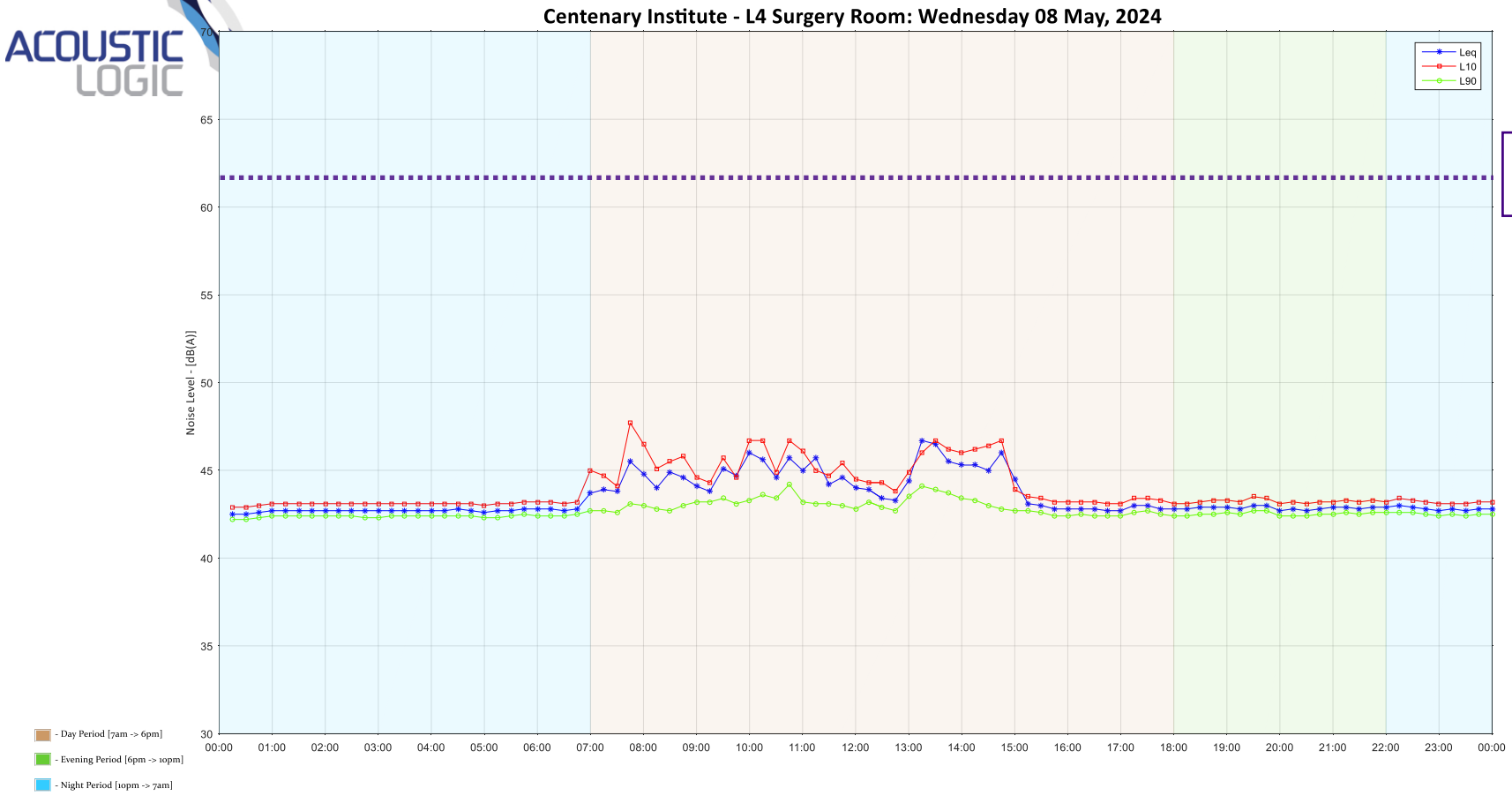

Animal Housing / Breeding / Observation Room NML
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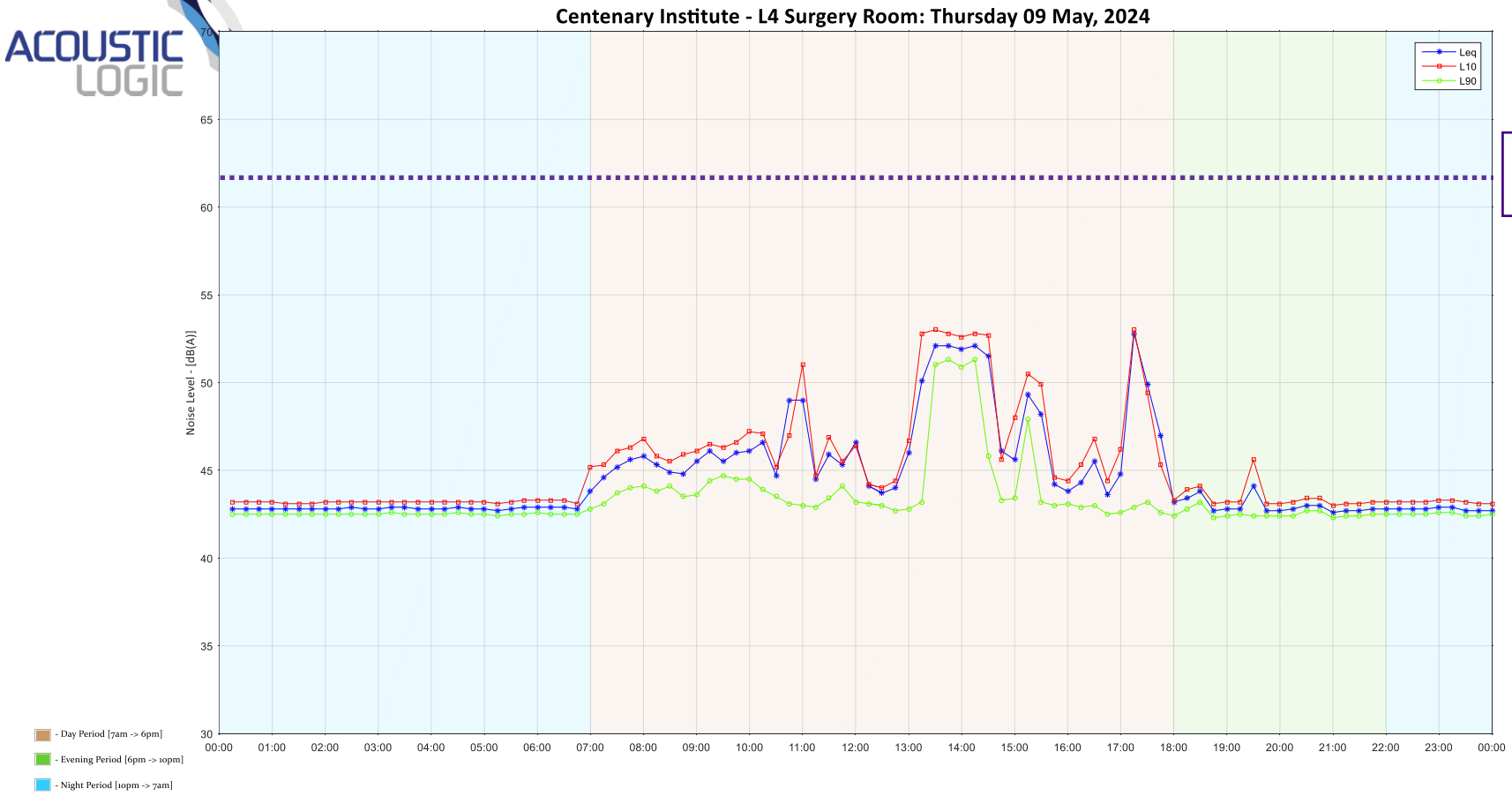
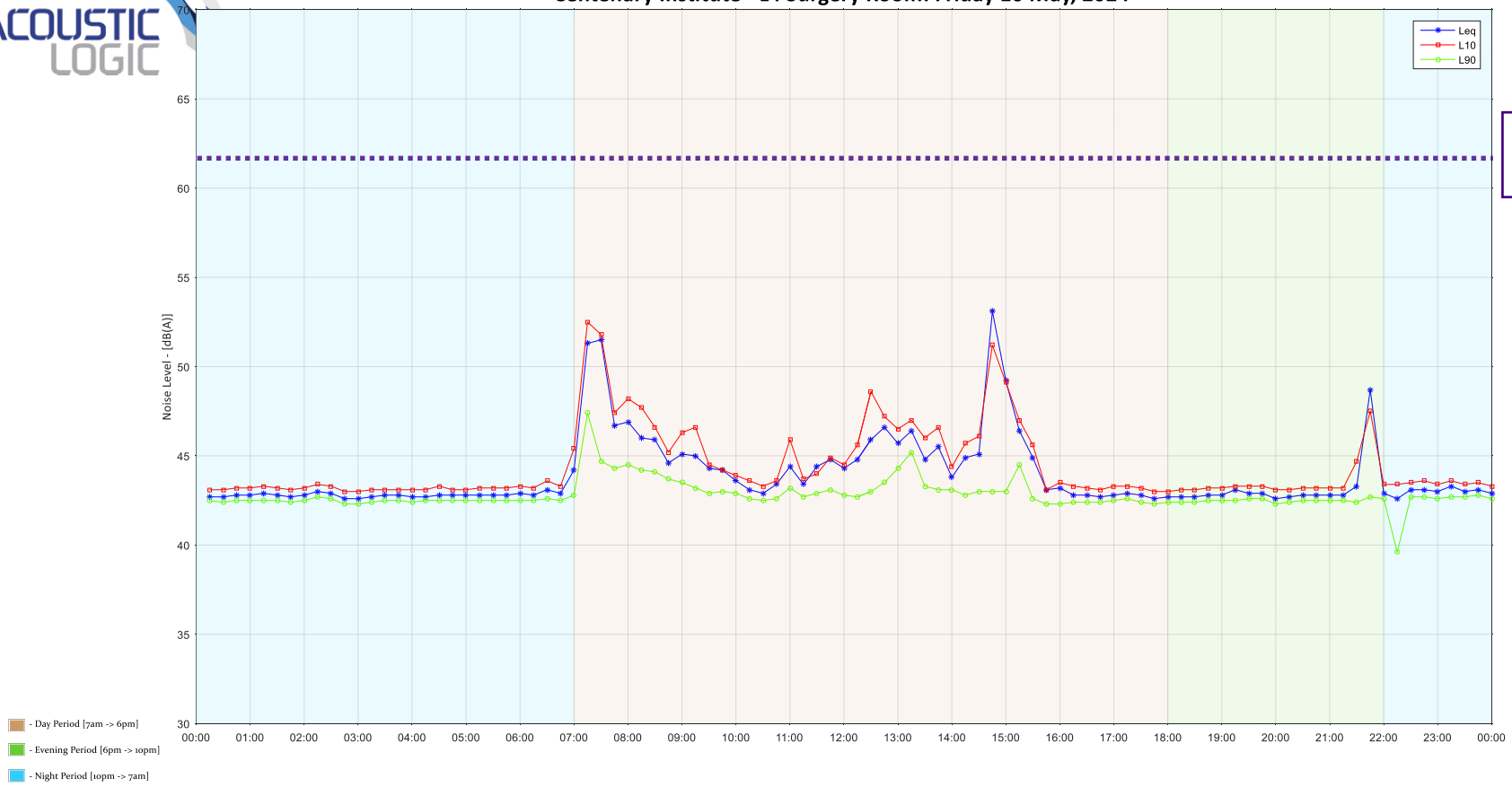


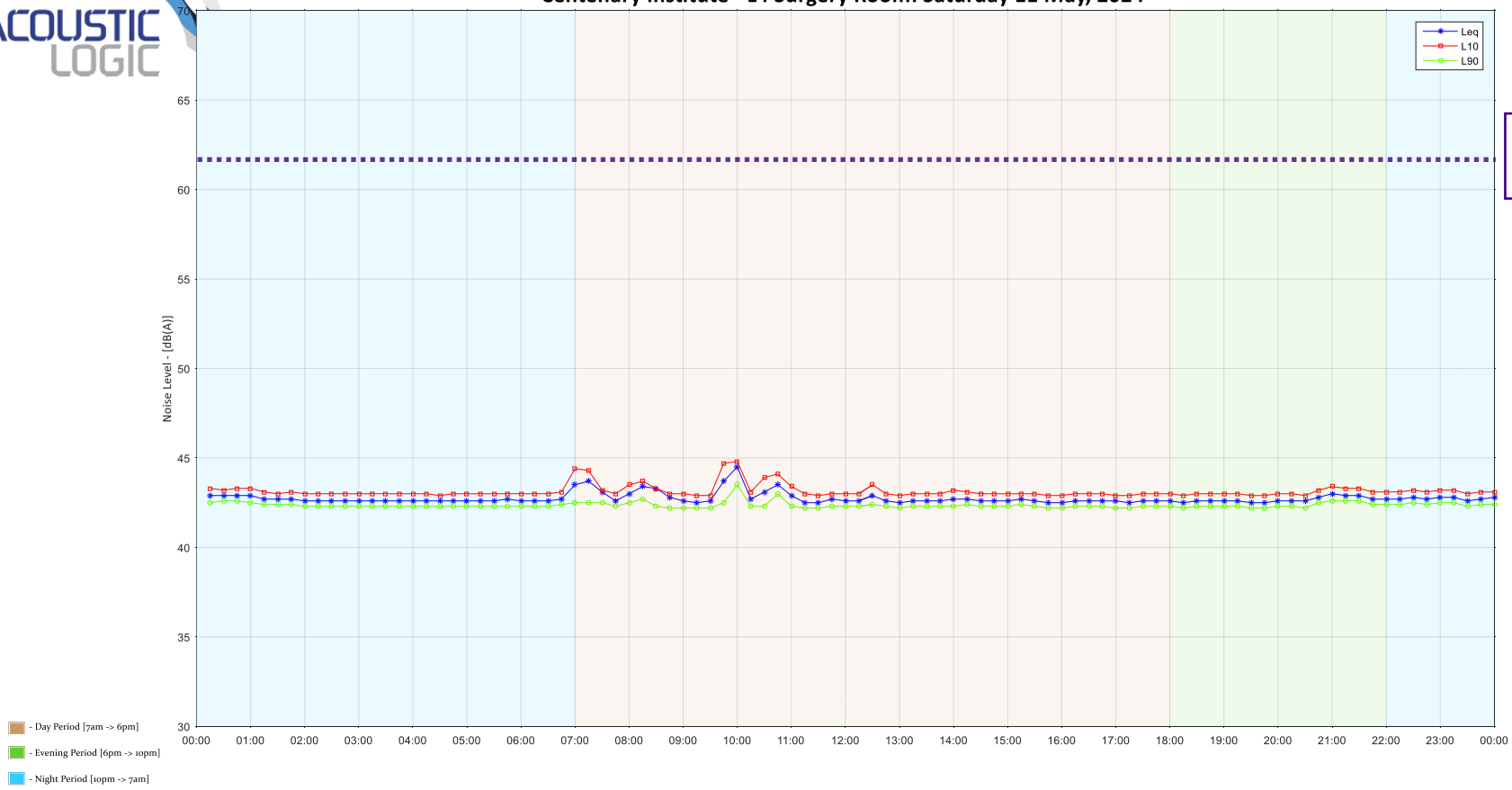
Animal Housing / Breeding / Observation Room NML
≤ 62dB(A)L_{eq}

Centenary Institute - L4 Surgery Room: Friday 10 May, 2024



Animal Housing / Breeding / Observation Room NML ≤ 62dB(A)L_{eq}

Centenary Institute - L4 Surgery Room: Saturday 11 May, 2024

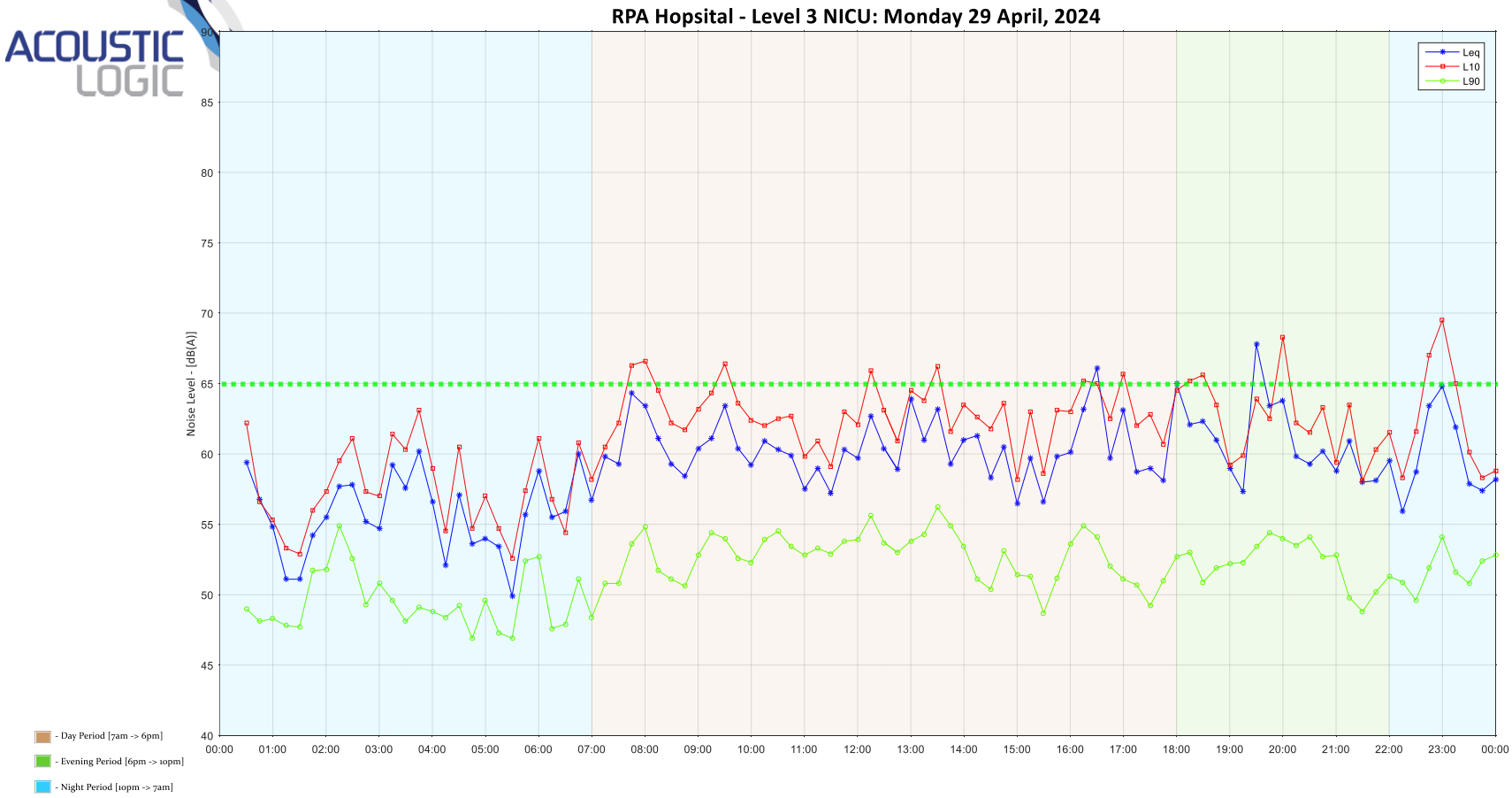


Animal Housing / Breeding / Observation Room NML ≤ 62dB(A)L_{eq}

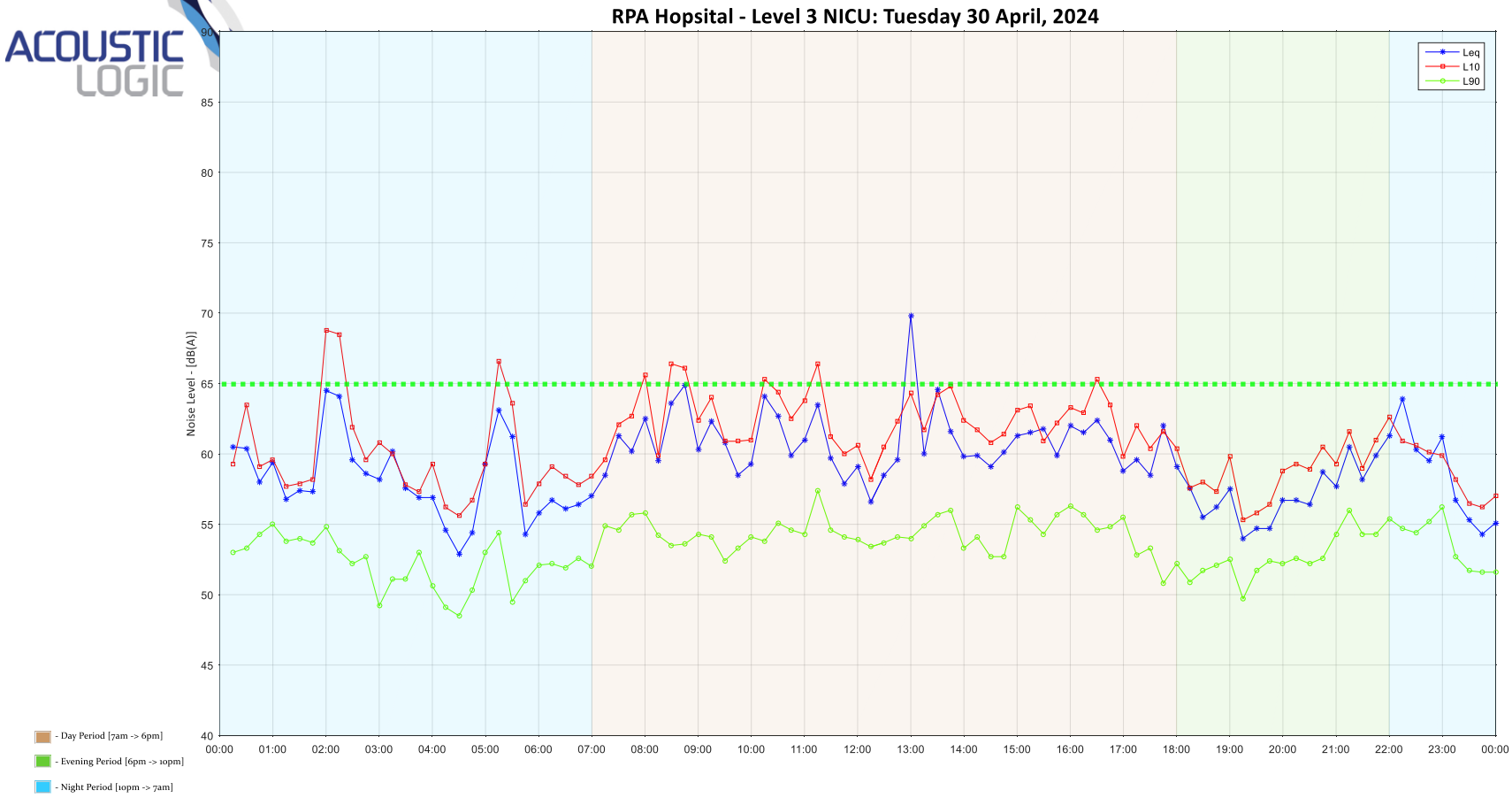
Centenary Institute - L4 Surgery Room: Sunday 12 May, 2024

Animal Housing / Breeding / Observation Room NML ≤ 62dB(A)L_{eq}

RPA HOSPITAL MAIN BUILDING – LEVEL 3 NICU



NICU NML (Including correction) ≤ 65dB(A)L_{eq}



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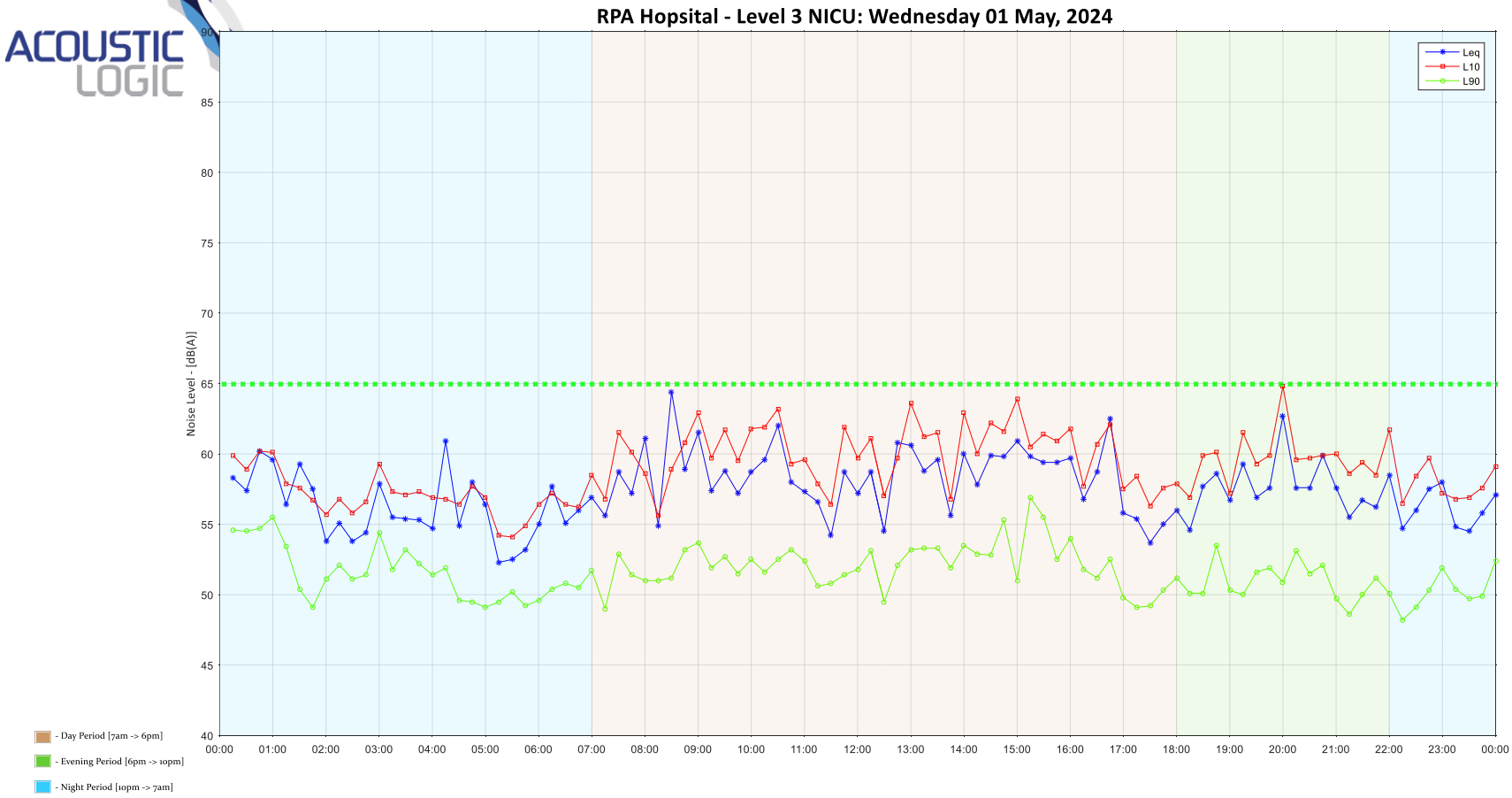

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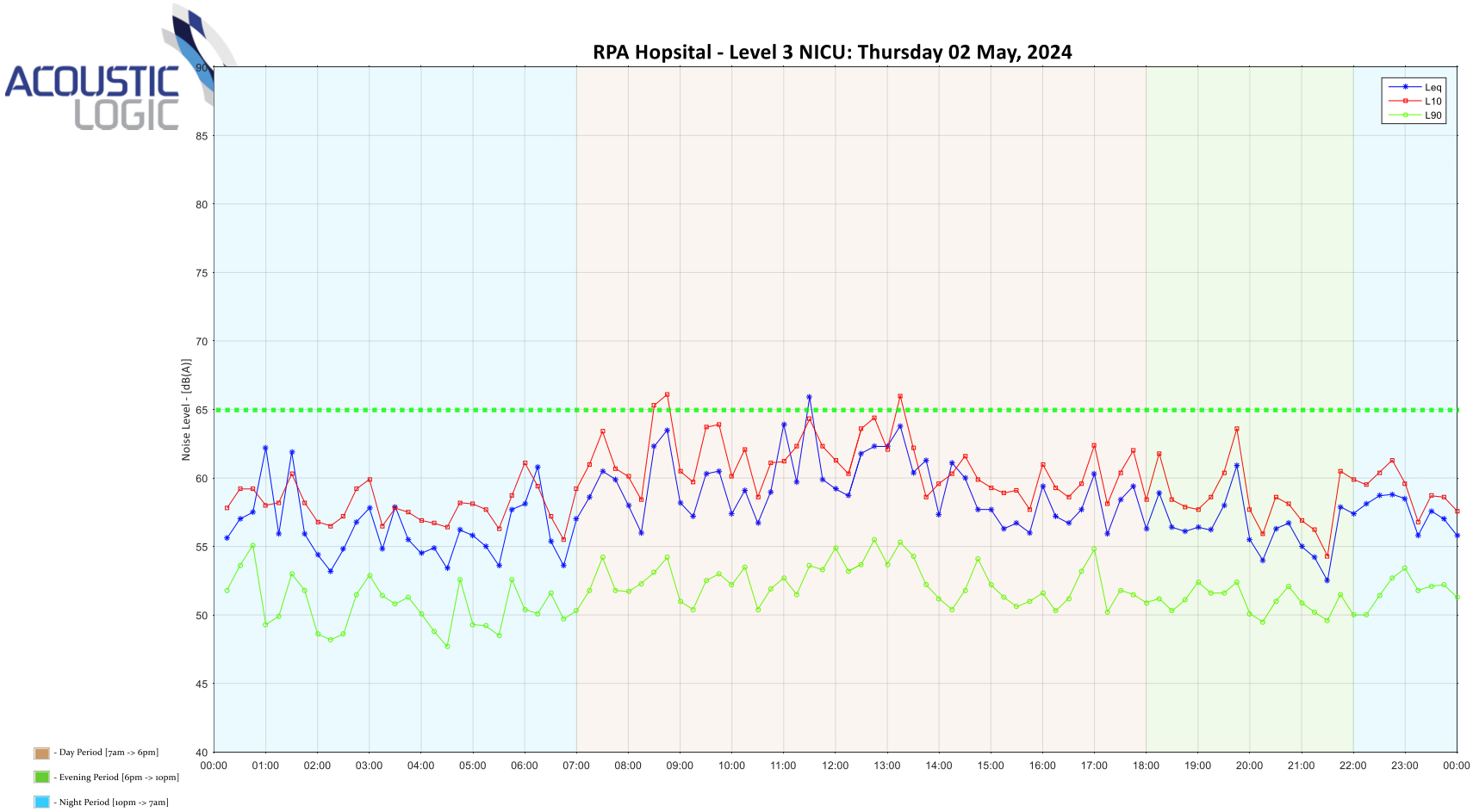
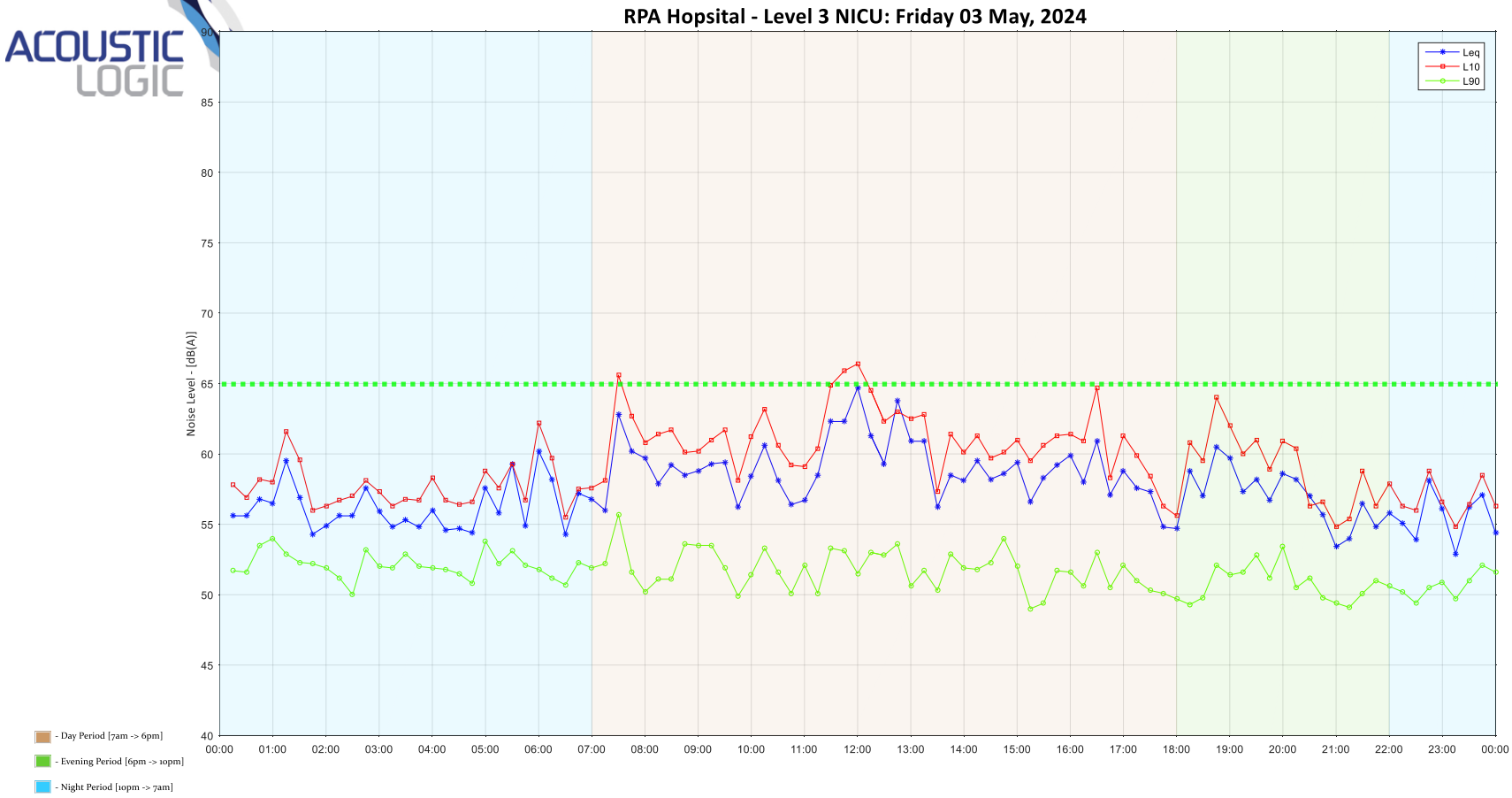
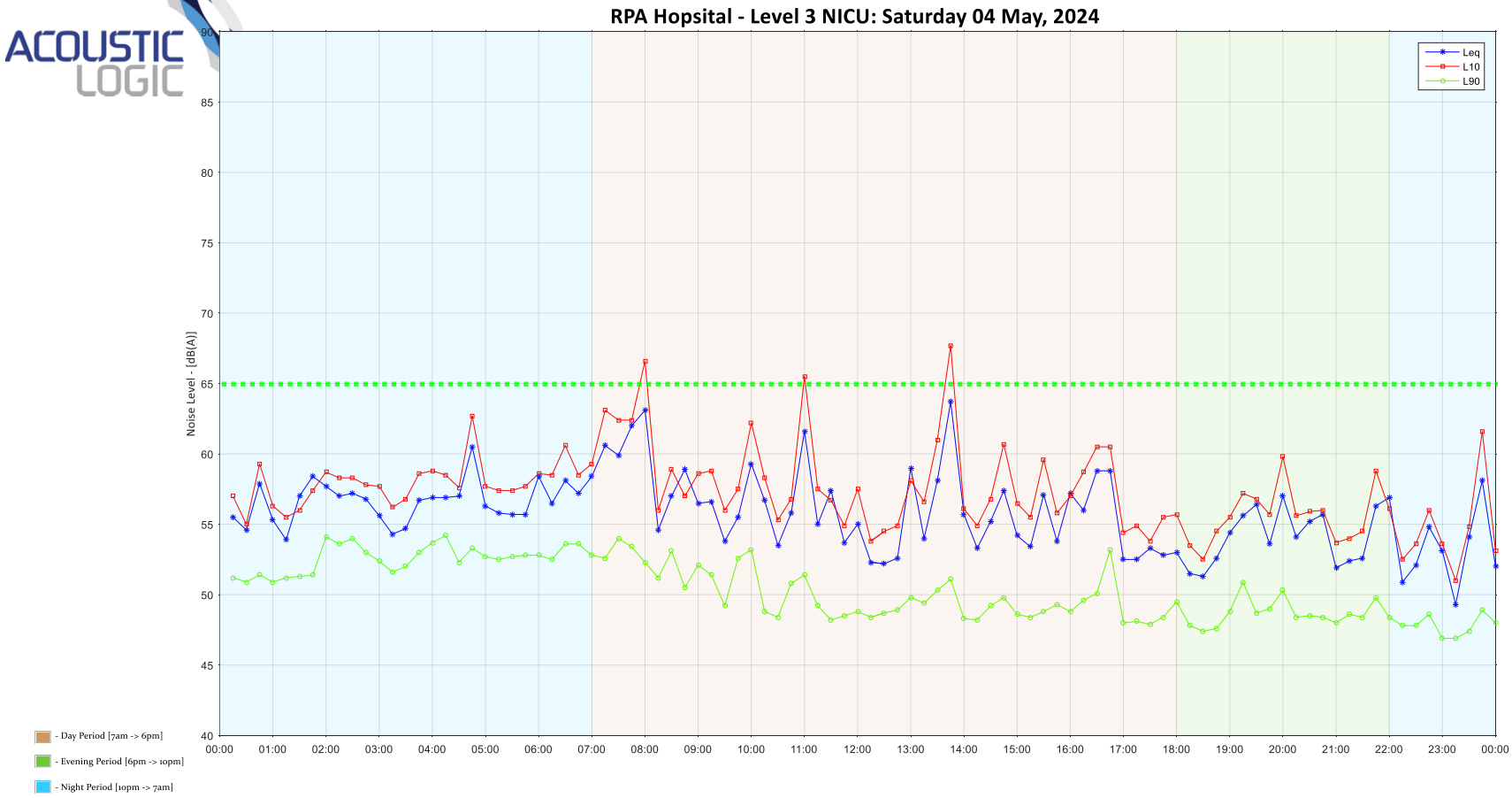


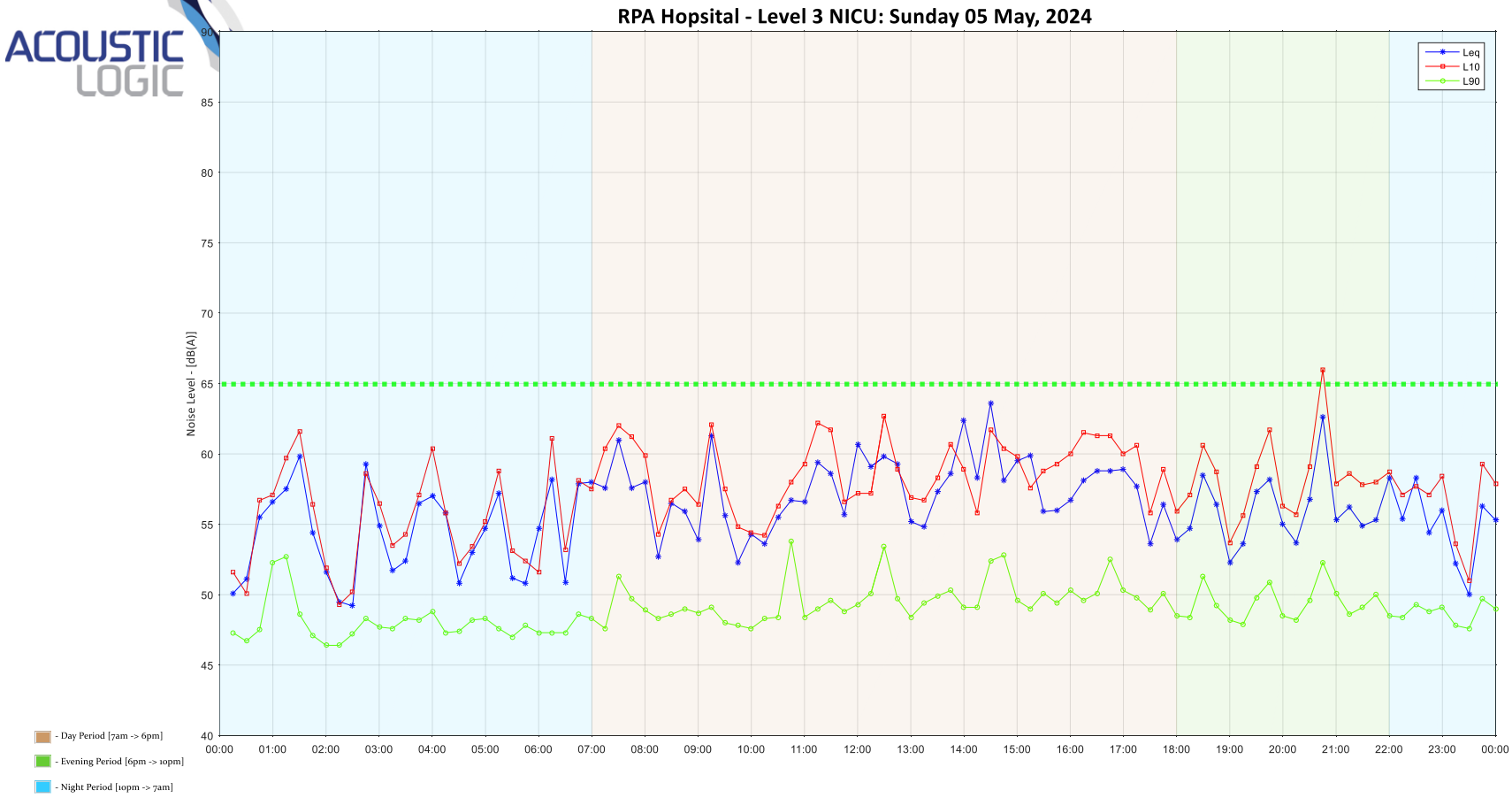
NICU NML (Including correction) ≤ 65dB(A)L_{eq}



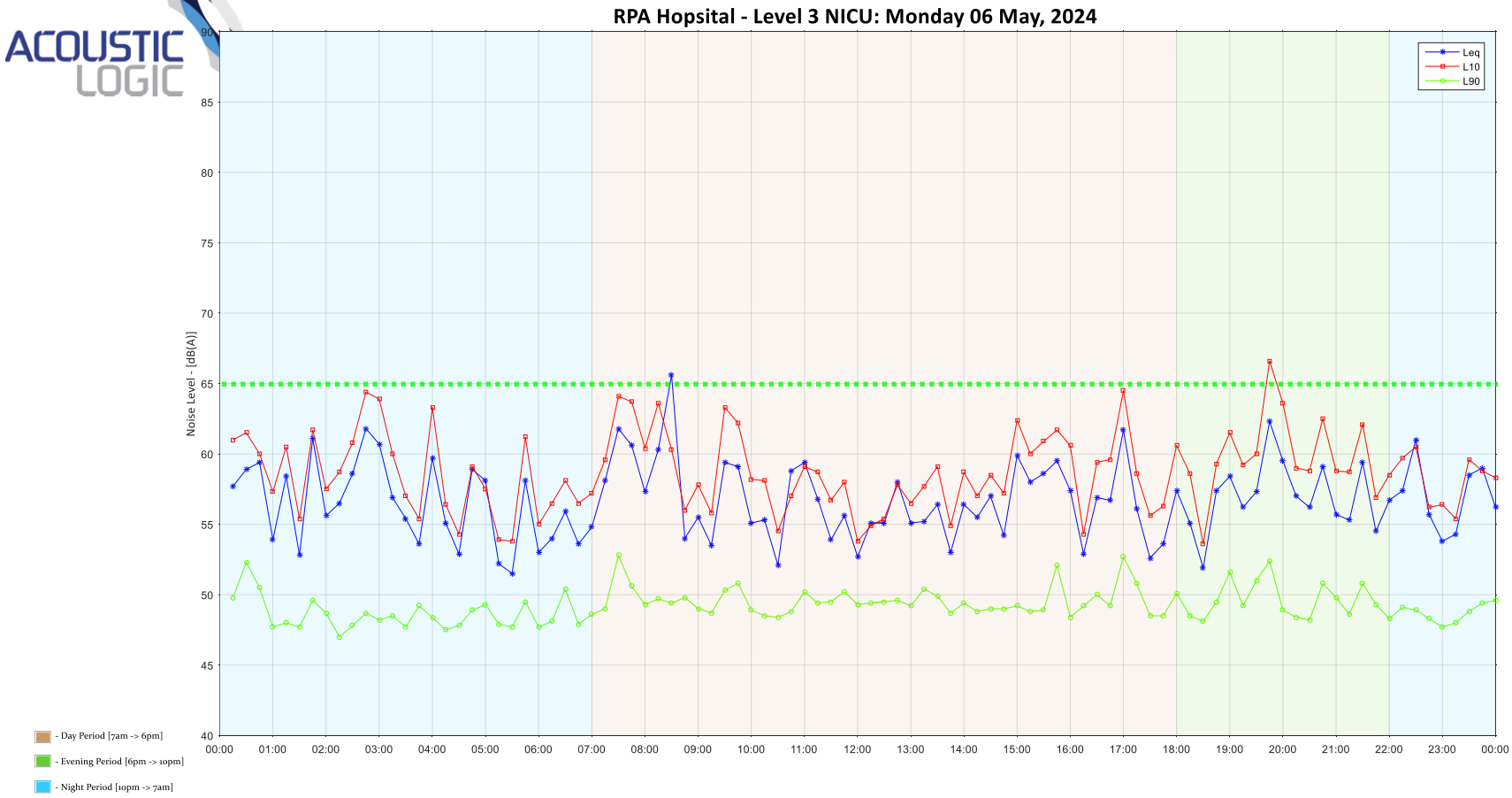
NICU NML (Including correction) ≤ 65dB(A)L_{eq}



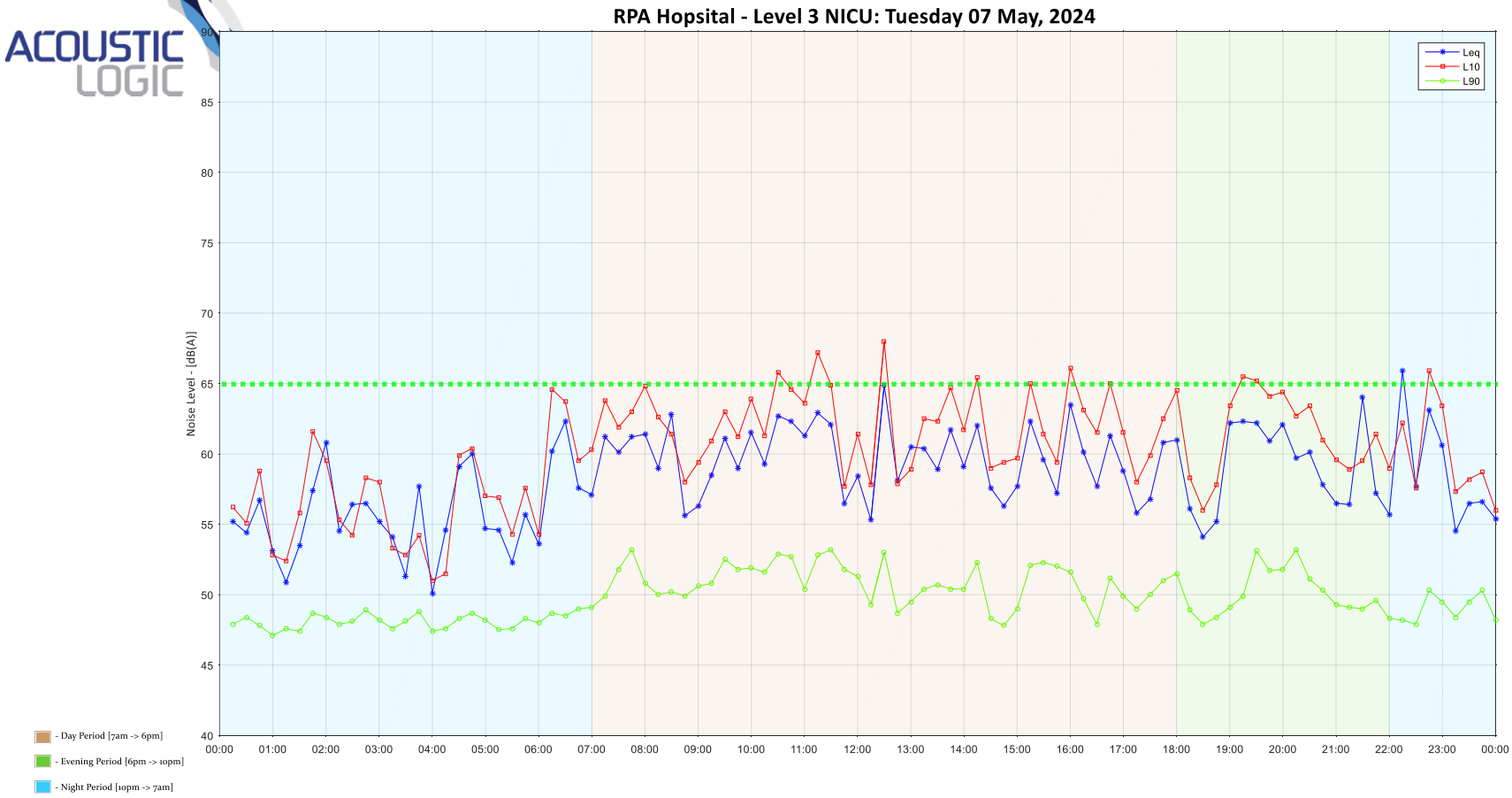
NICU NML (Including correction) ≤ 65dB(A)L_{eq}



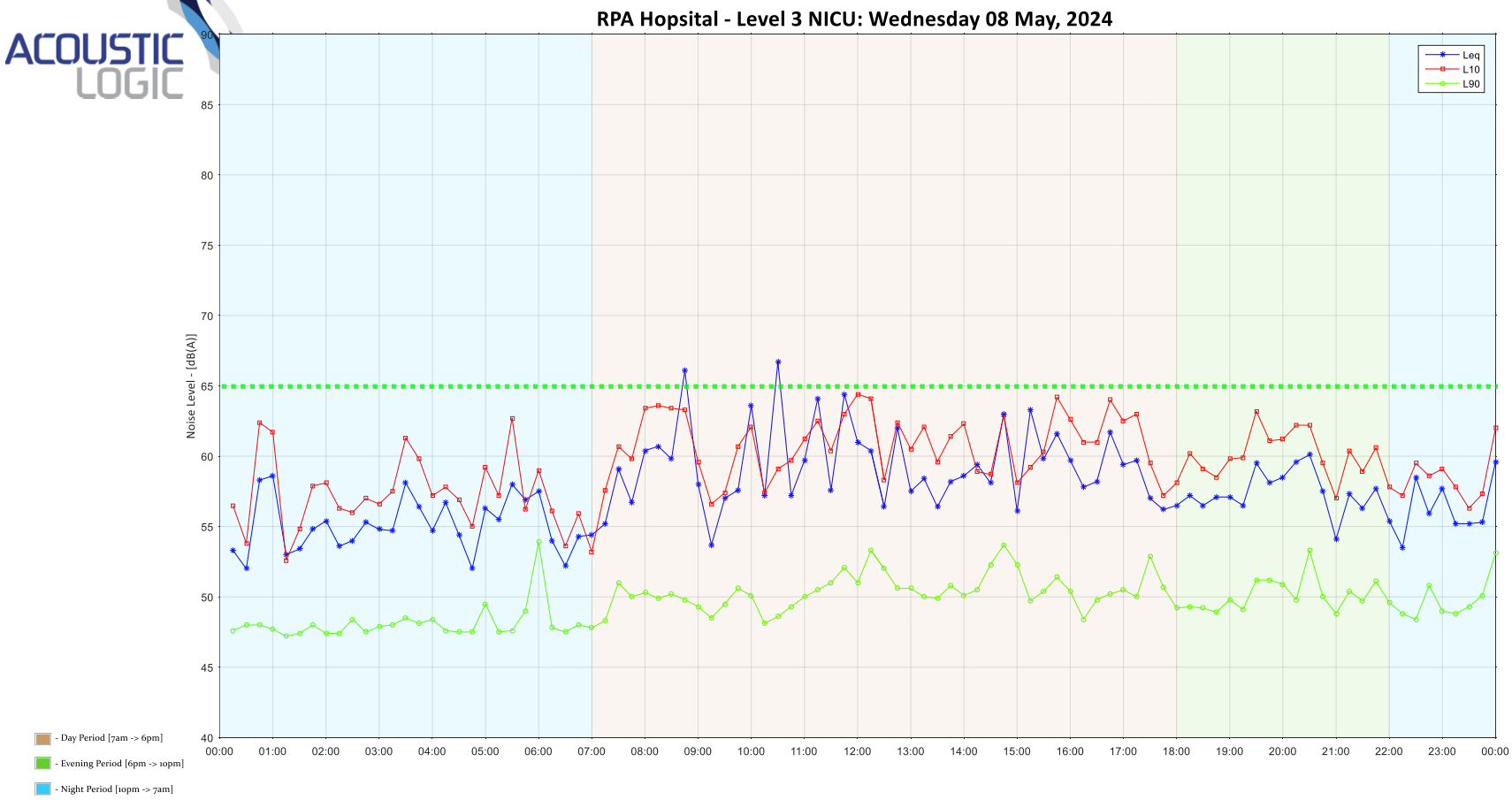
NICU NML (Including correction) ≤ 65dB(A)L_{eq}



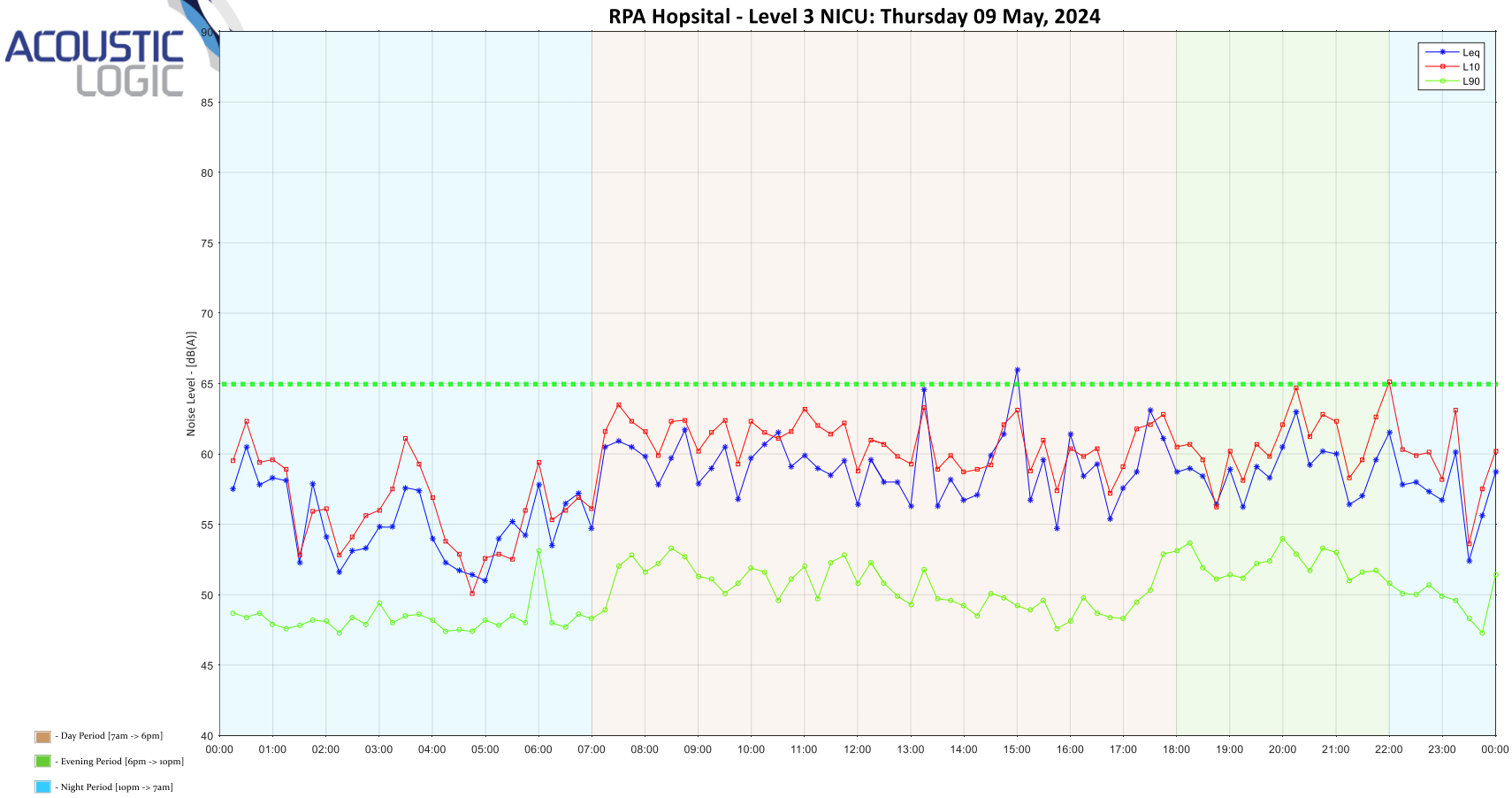
NICU NML (Including correction) ≤ 65dB(A)L_{eq}



NICU NML (Including correction) ≤ 65dB(A)L_{eq}

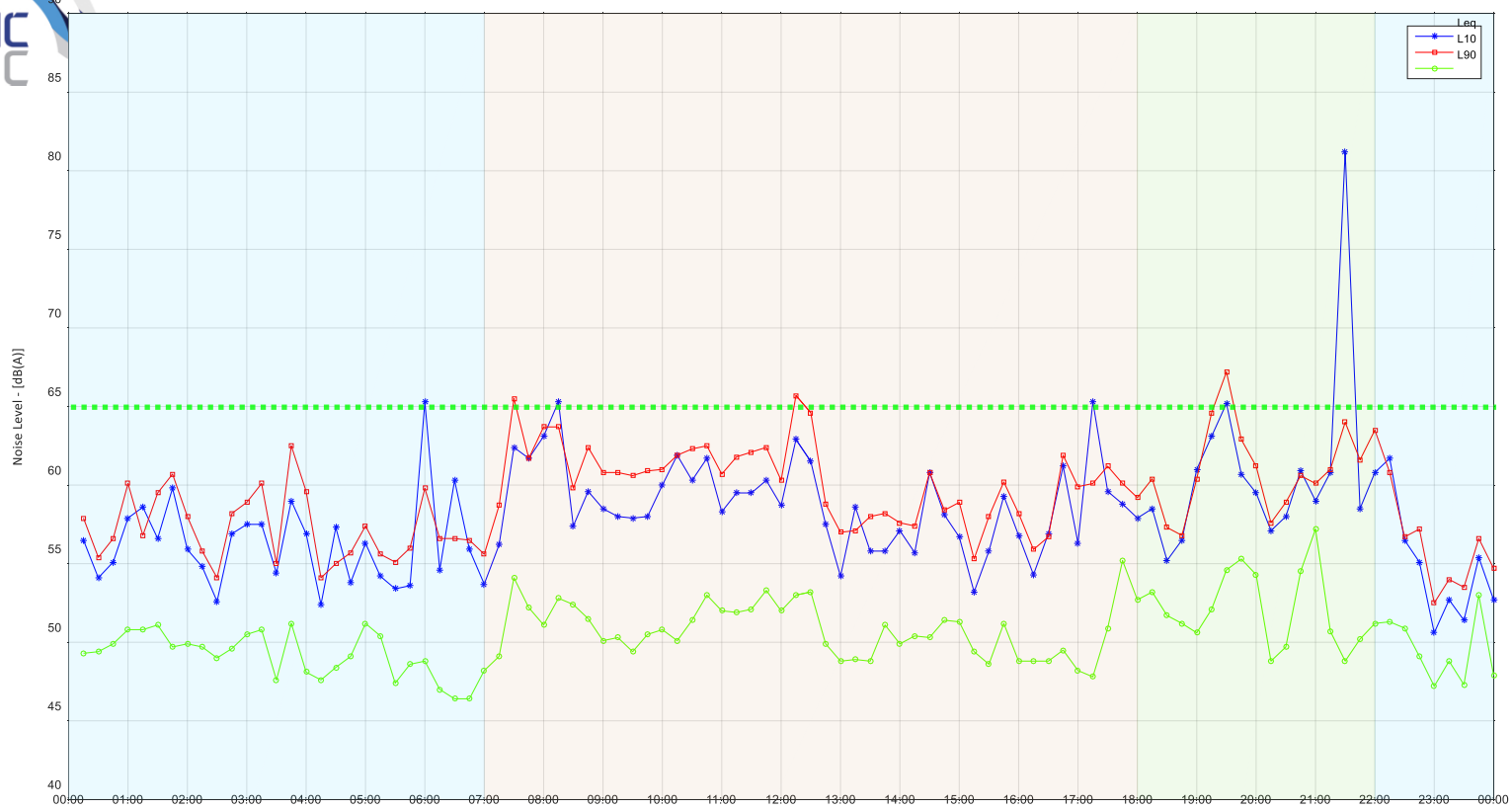


NICU NML (Including correction) ≤ 65dB(A)L_{eq}

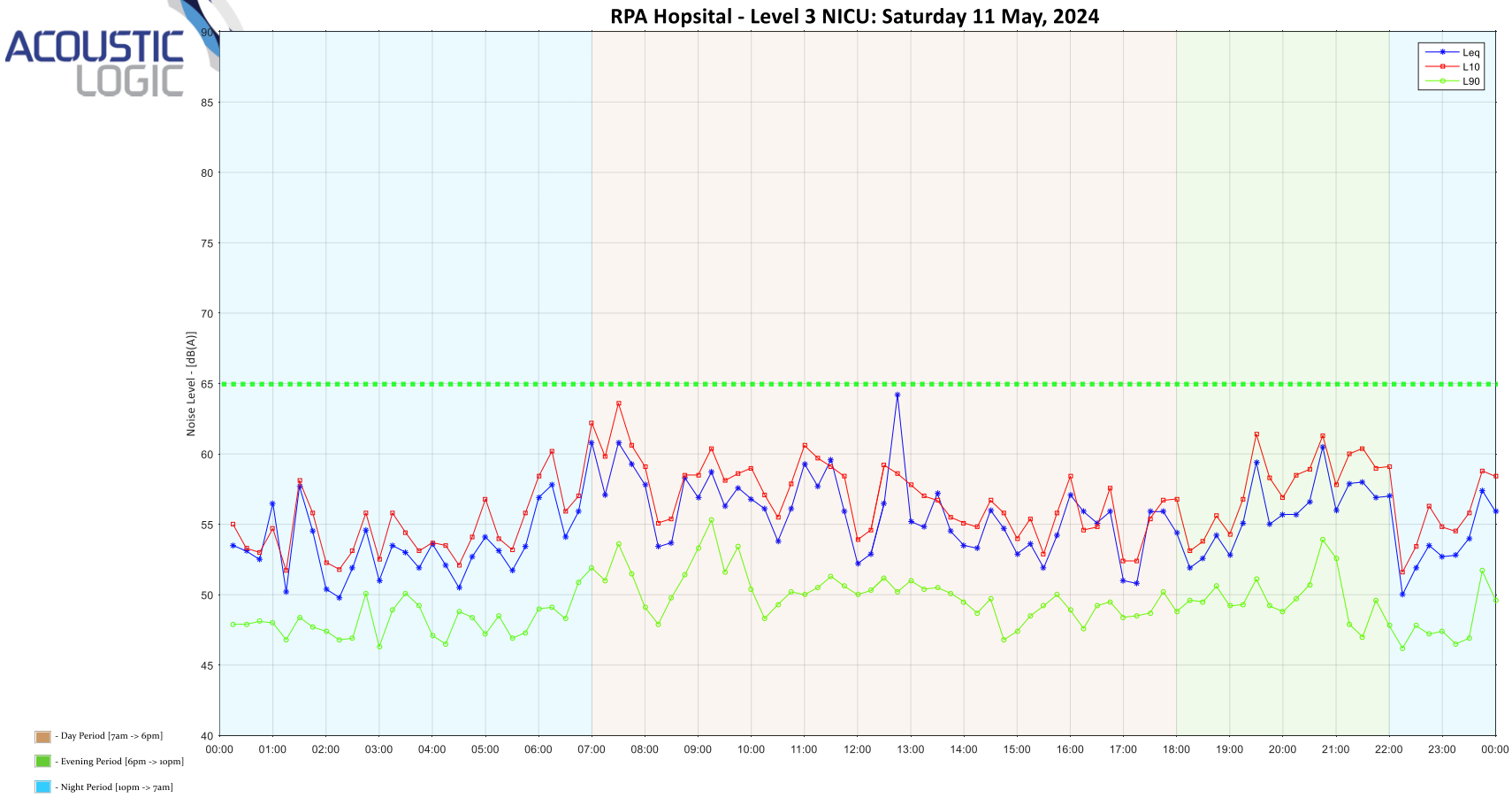


NICU NML (Including correction) ≤ 65dB(A)L_{eq}

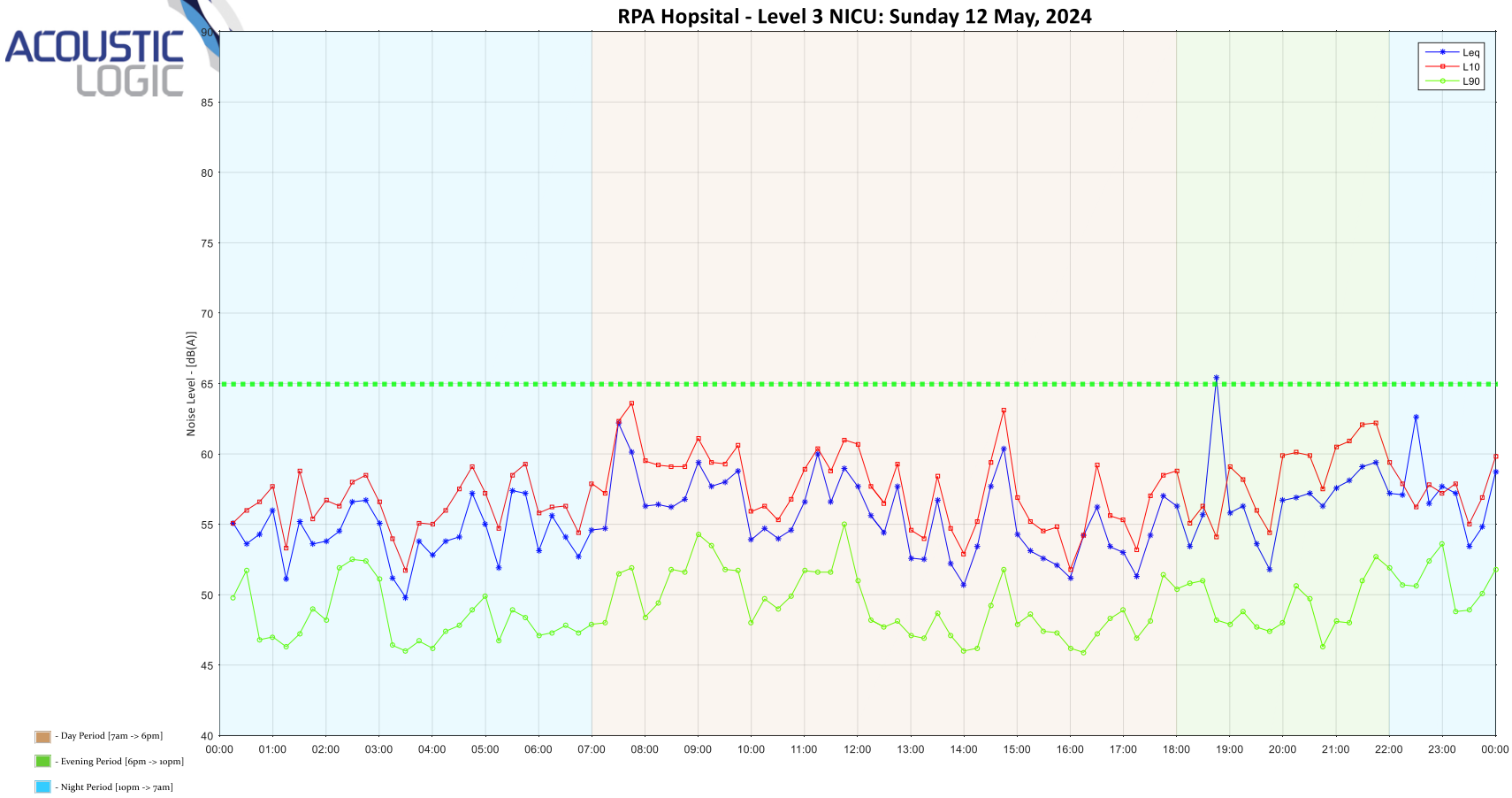
RPA Hopsital - Level 3 NICU: Friday 10 May, 2024



NICU NML (Including correction) ≤ 65dB(A)L_{eq}



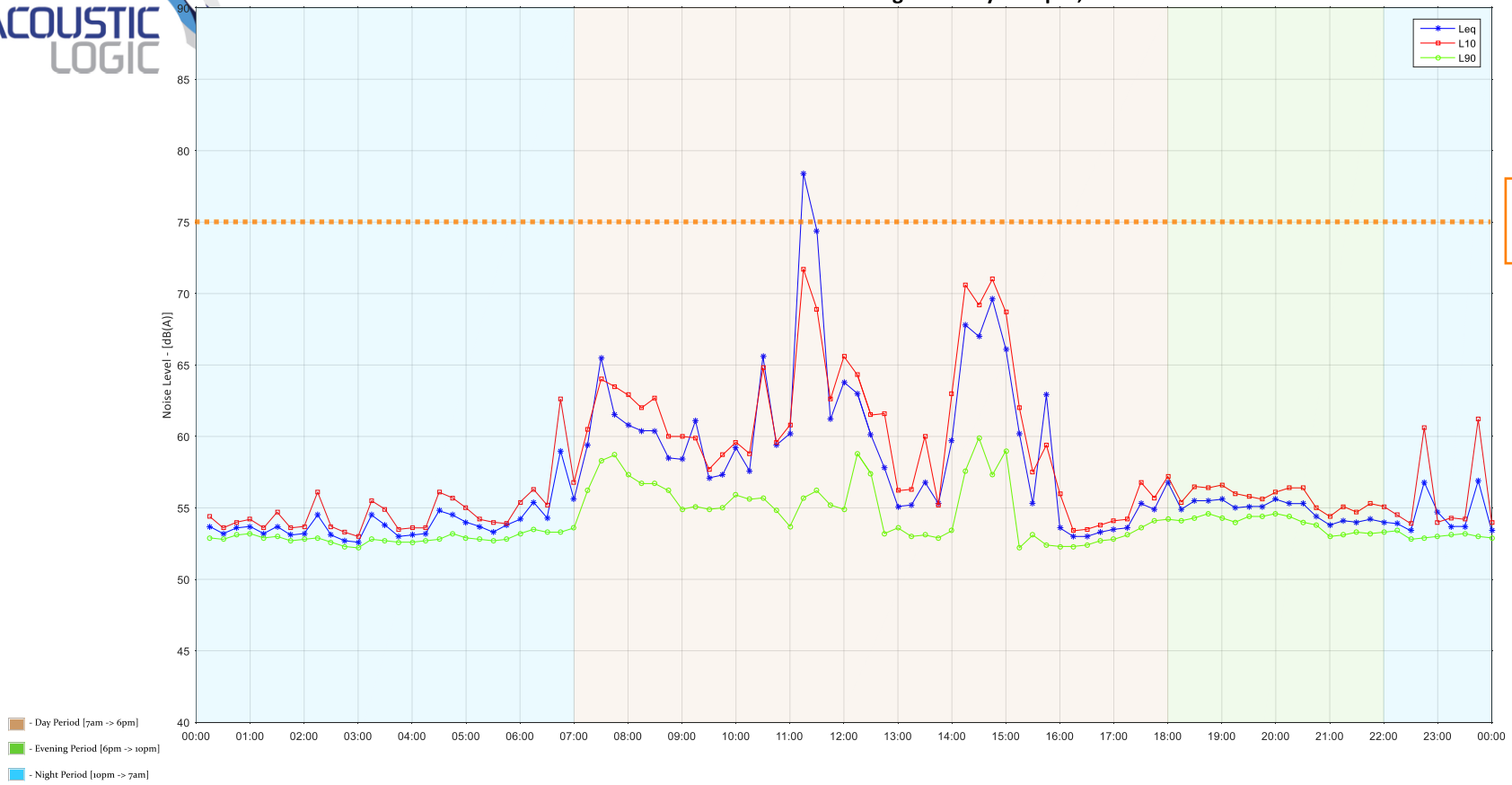
NICU NML (Including correction) ≤ 65dB(A)L_{eq}



NICU NML (Including correction) ≤ 65dB(A)L_{eq}

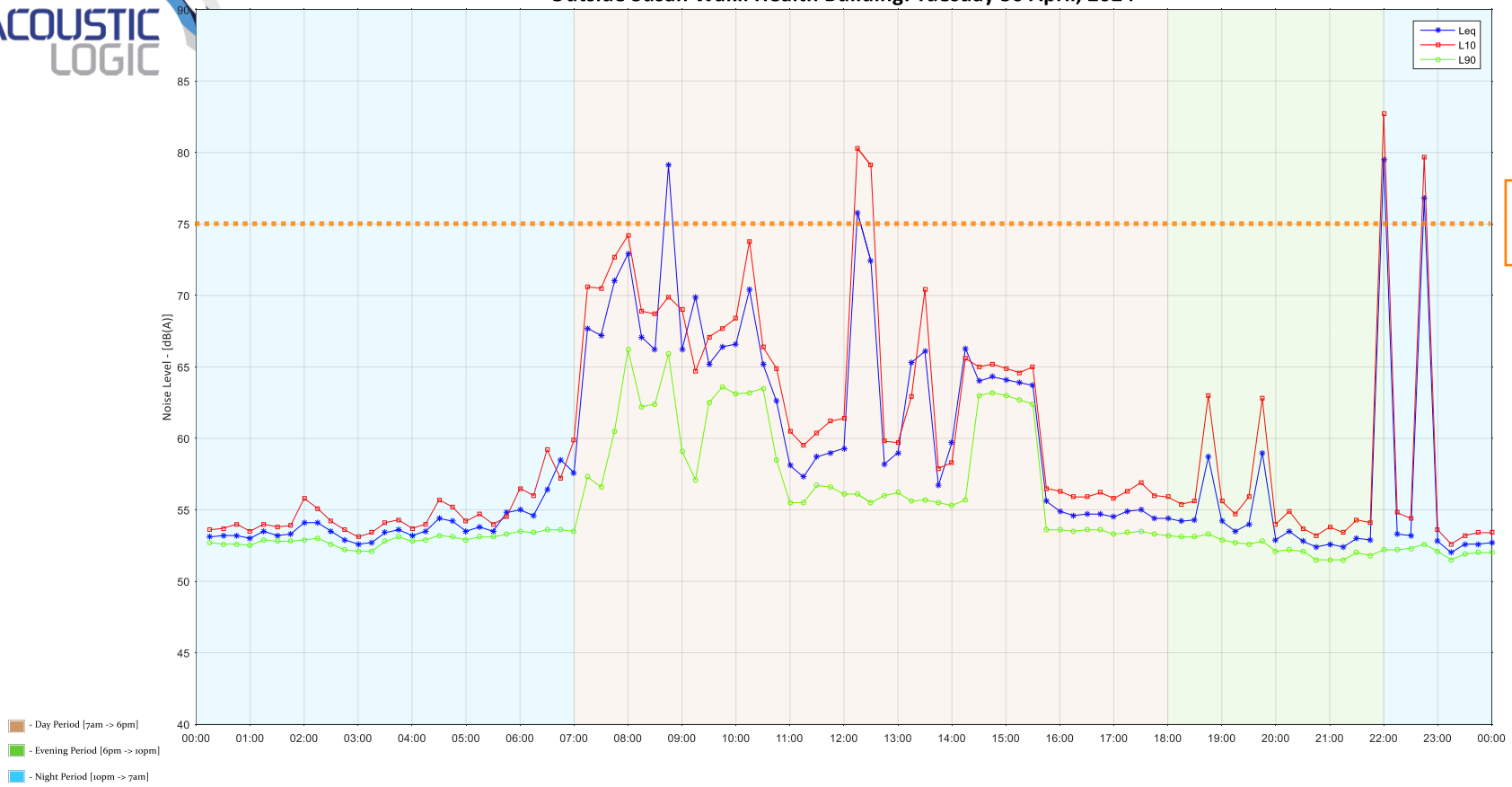
OUTSIDE SUSAN WAKIL HEALTH BUILDING

Outside Susan Wakil Health Building: Monday 29 April, 2024

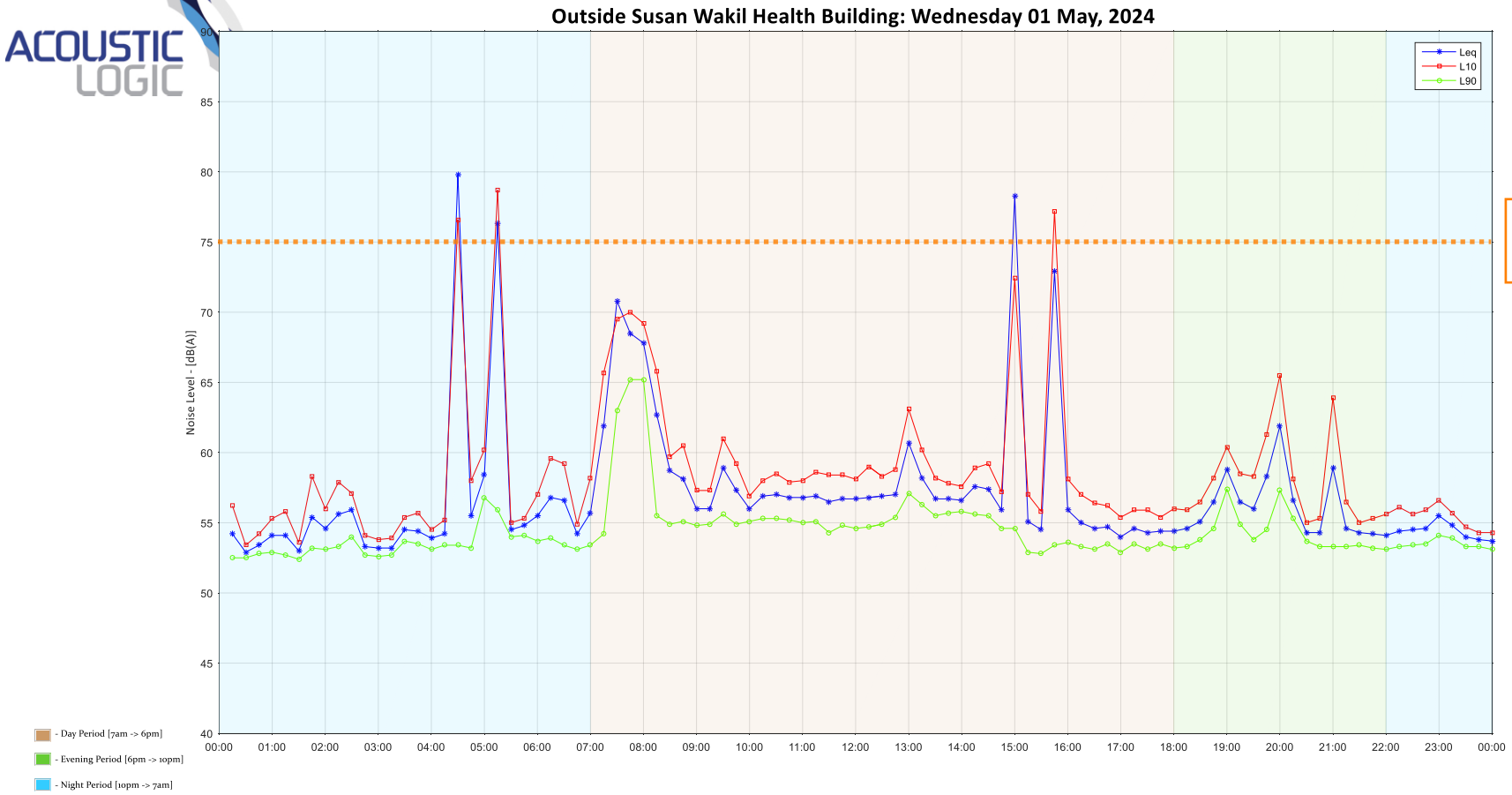


Education NML (Including correction) ≤ 75dB(A)L_{eq}

Outside Susan Wakil Health Building: Tuesday 30 April, 2024

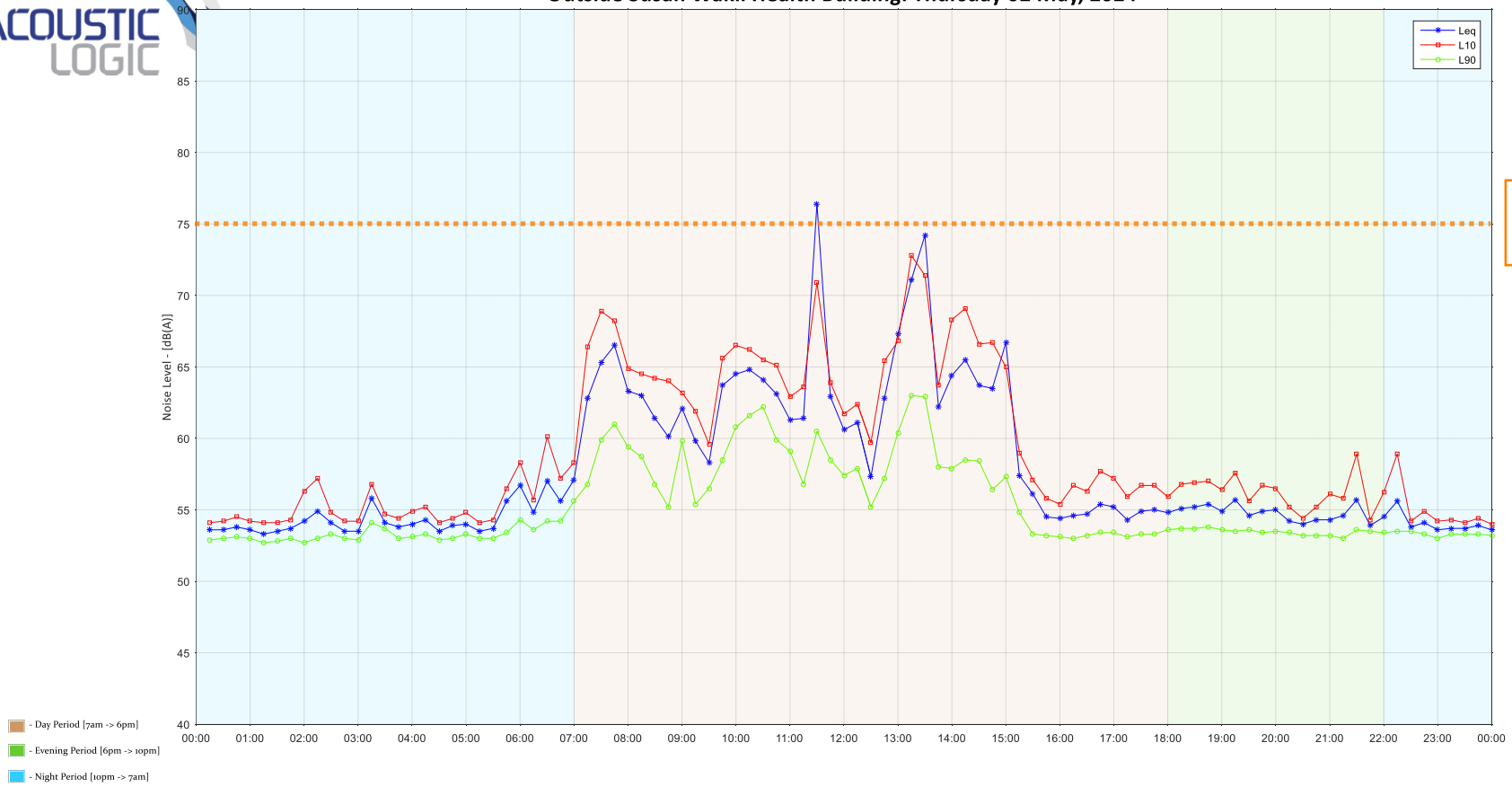


Education NML (Including correction) ≤ 75dB(A)L_{eq}

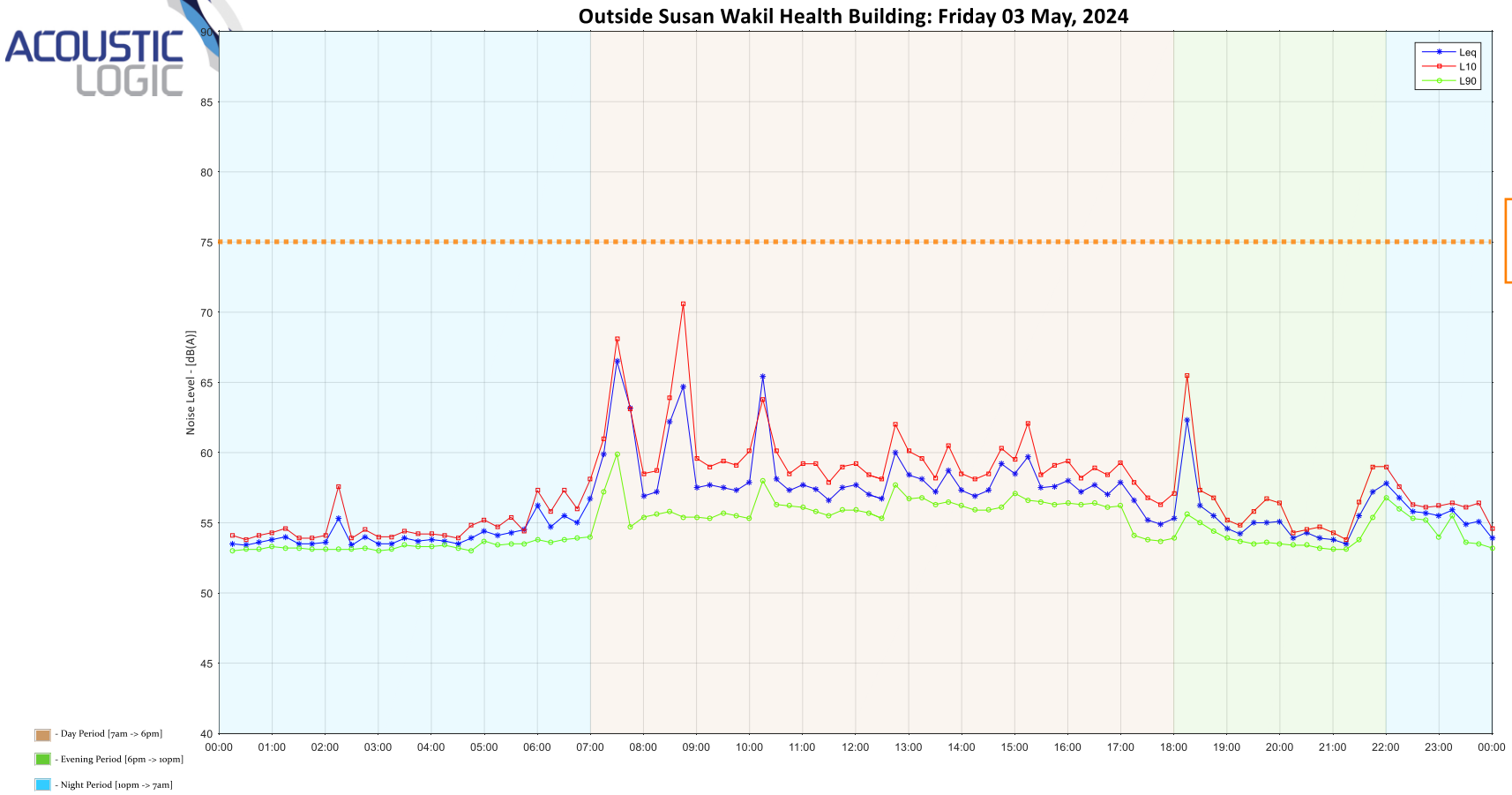


Education NML (Including correction) ≤ 75dB(A)L_{eq}

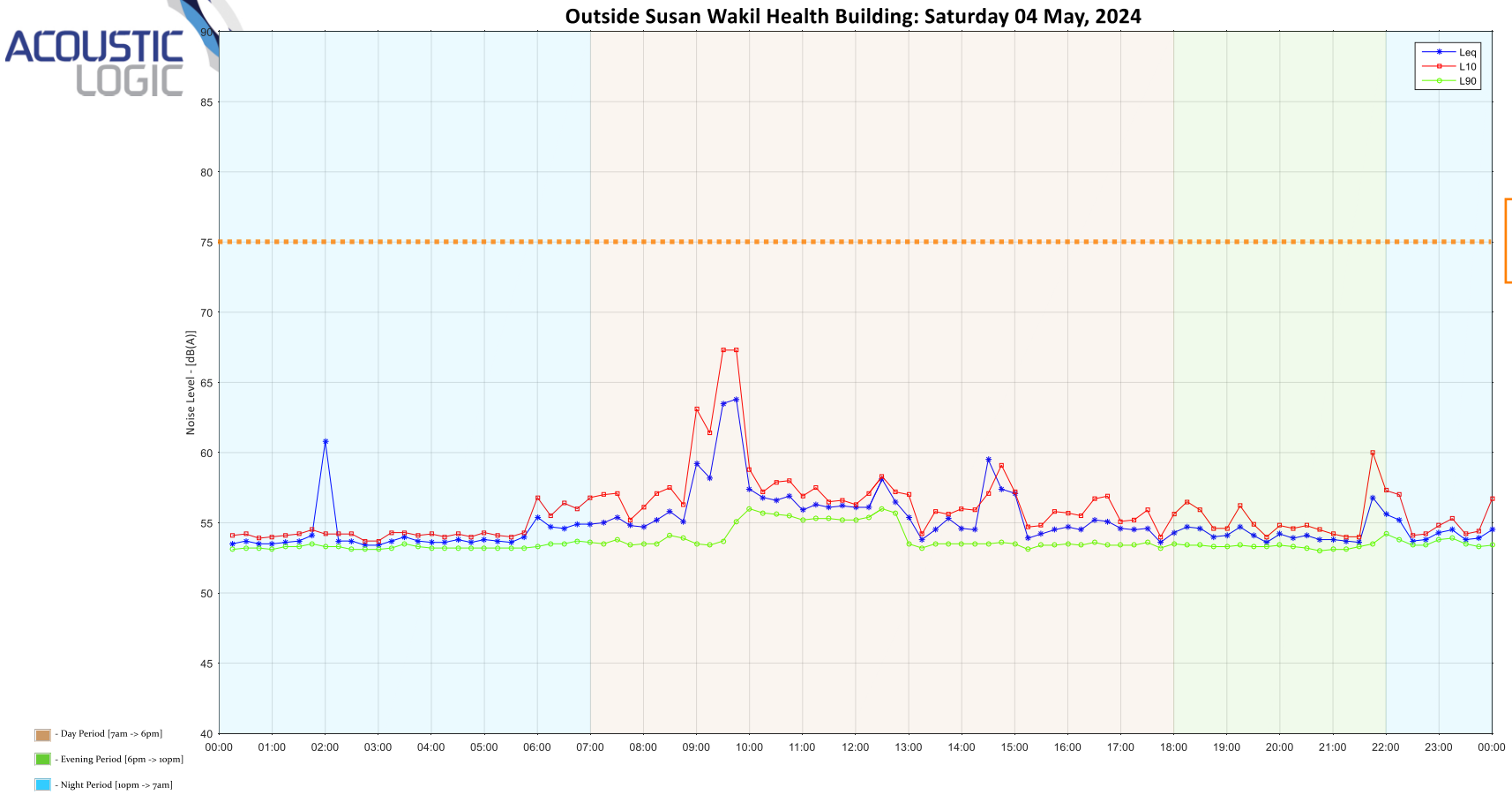
Outside Susan Wakil Health Building: Thursday 02 May, 2024



Education NML (Including correction) ≤ 75dB(A)L_{eq}

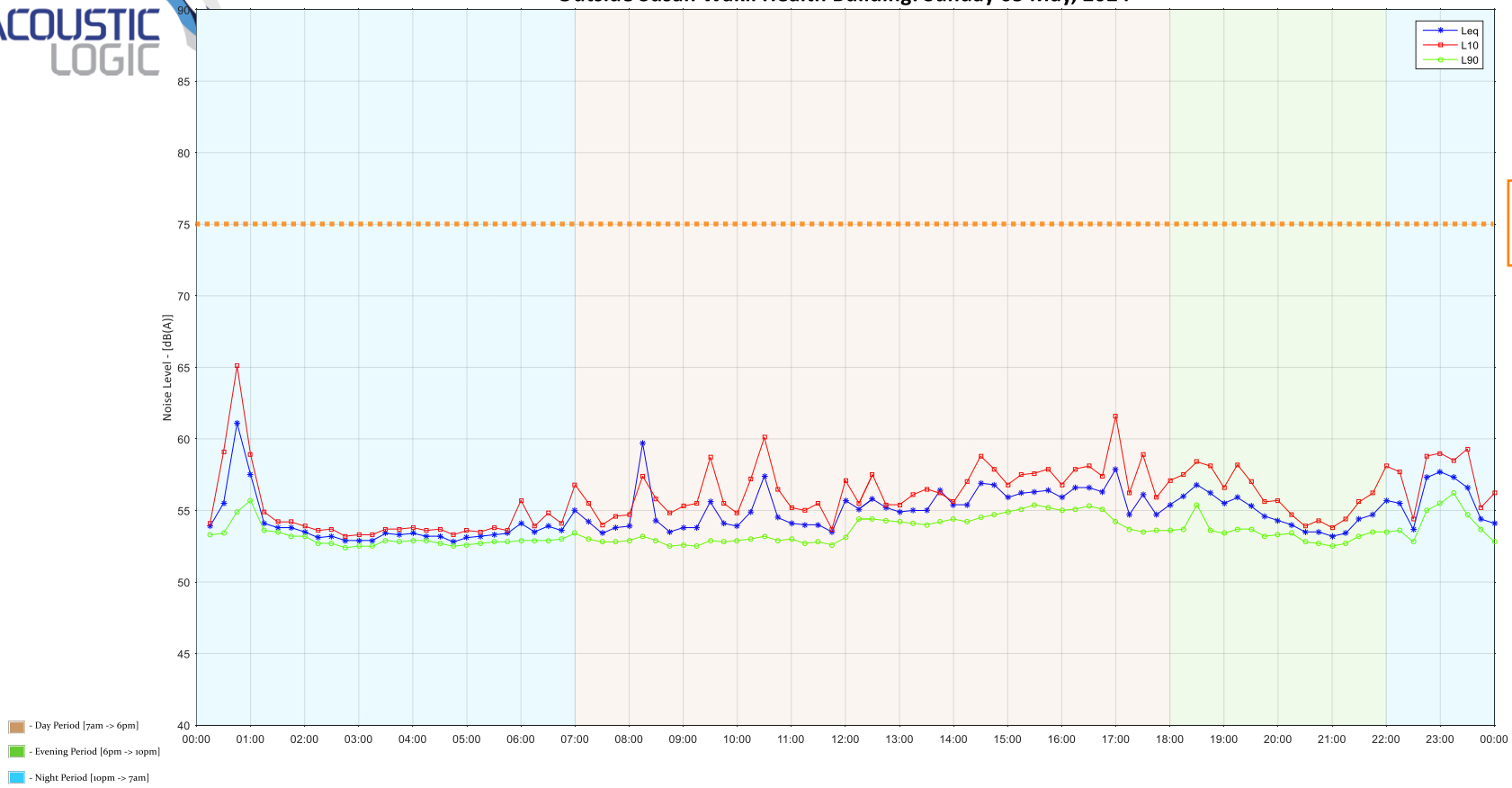


Education NML (Including correction) ≤ 75dB(A)L_{eq}

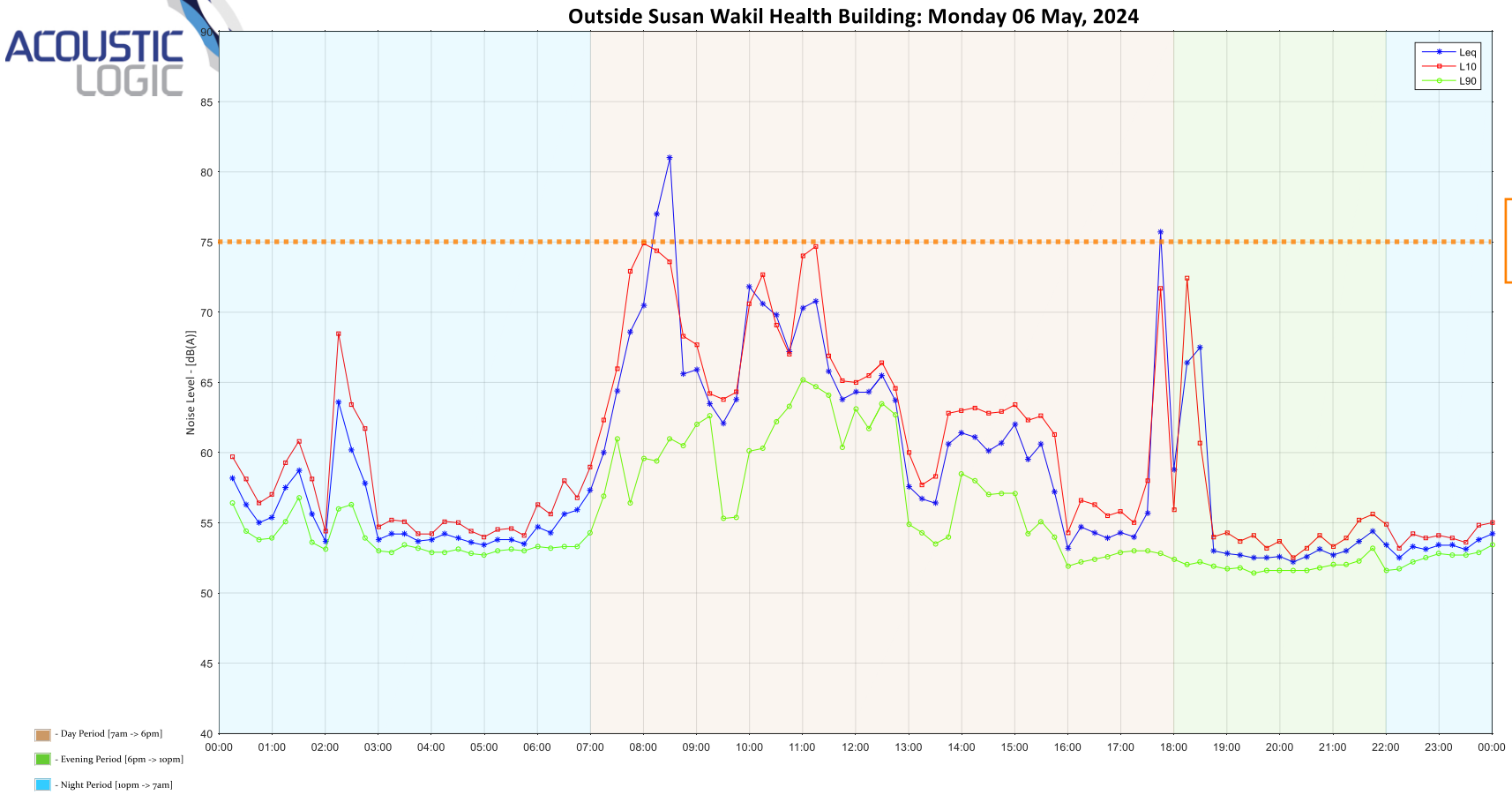


Education NML (Including correction) ≤ 75dB(A)L_{eq}

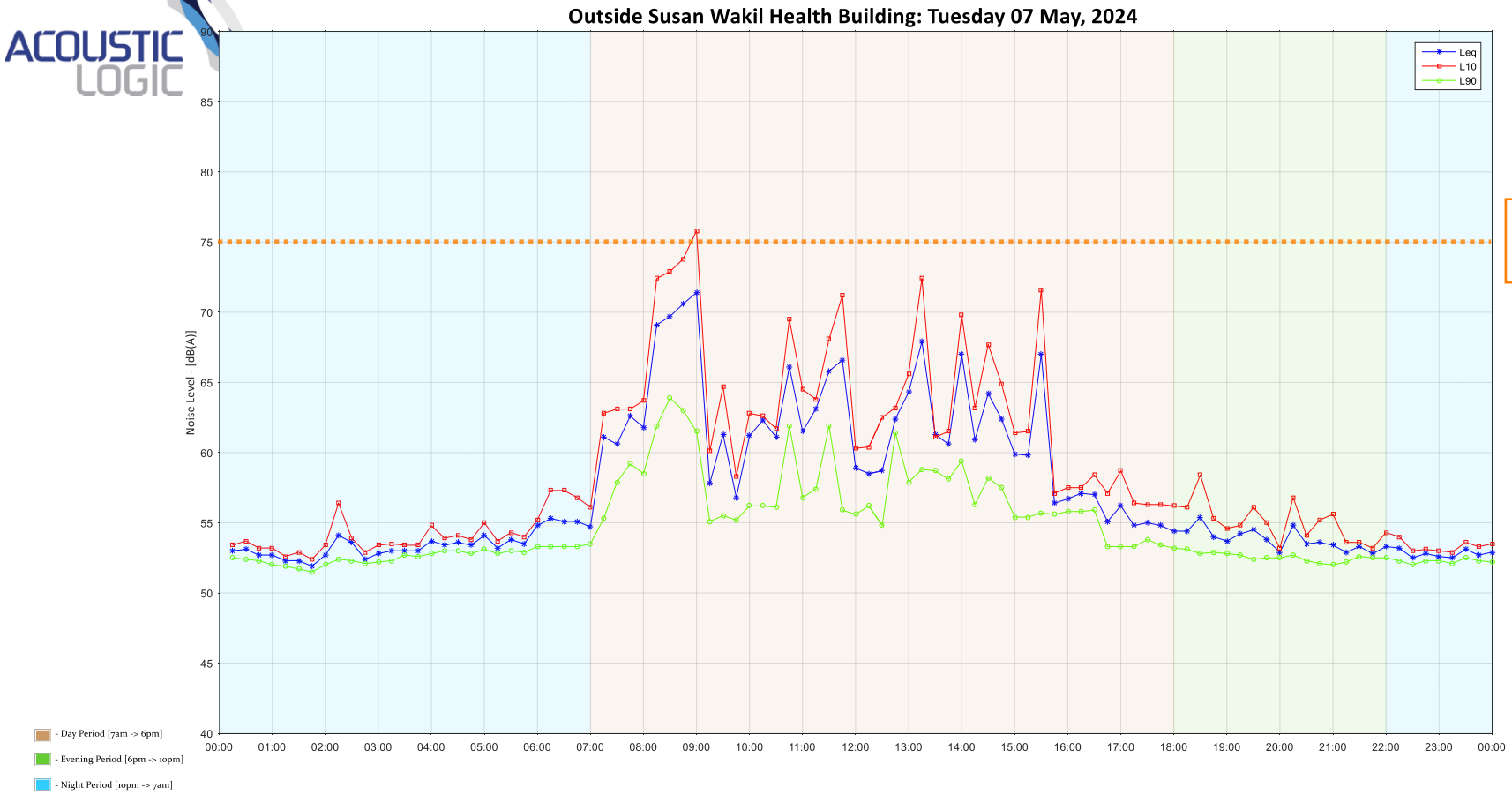
Outside Susan Wakil Health Building: Sunday 05 May, 2024



Education NML (Including correction) ≤ 75dB(A)L_{eq}

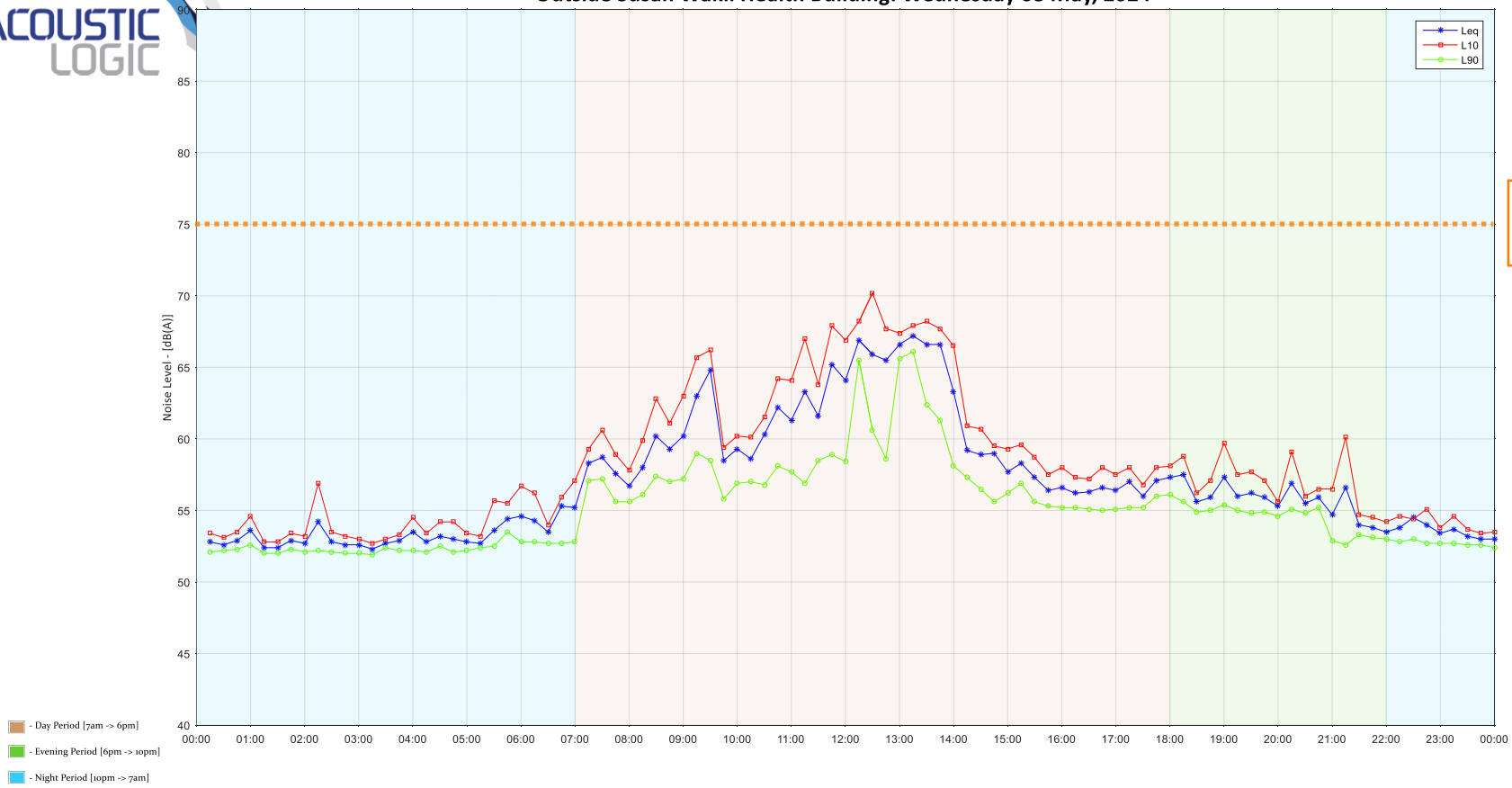


Education NML (Including correction) ≤ 75dB(A)L_{eq}

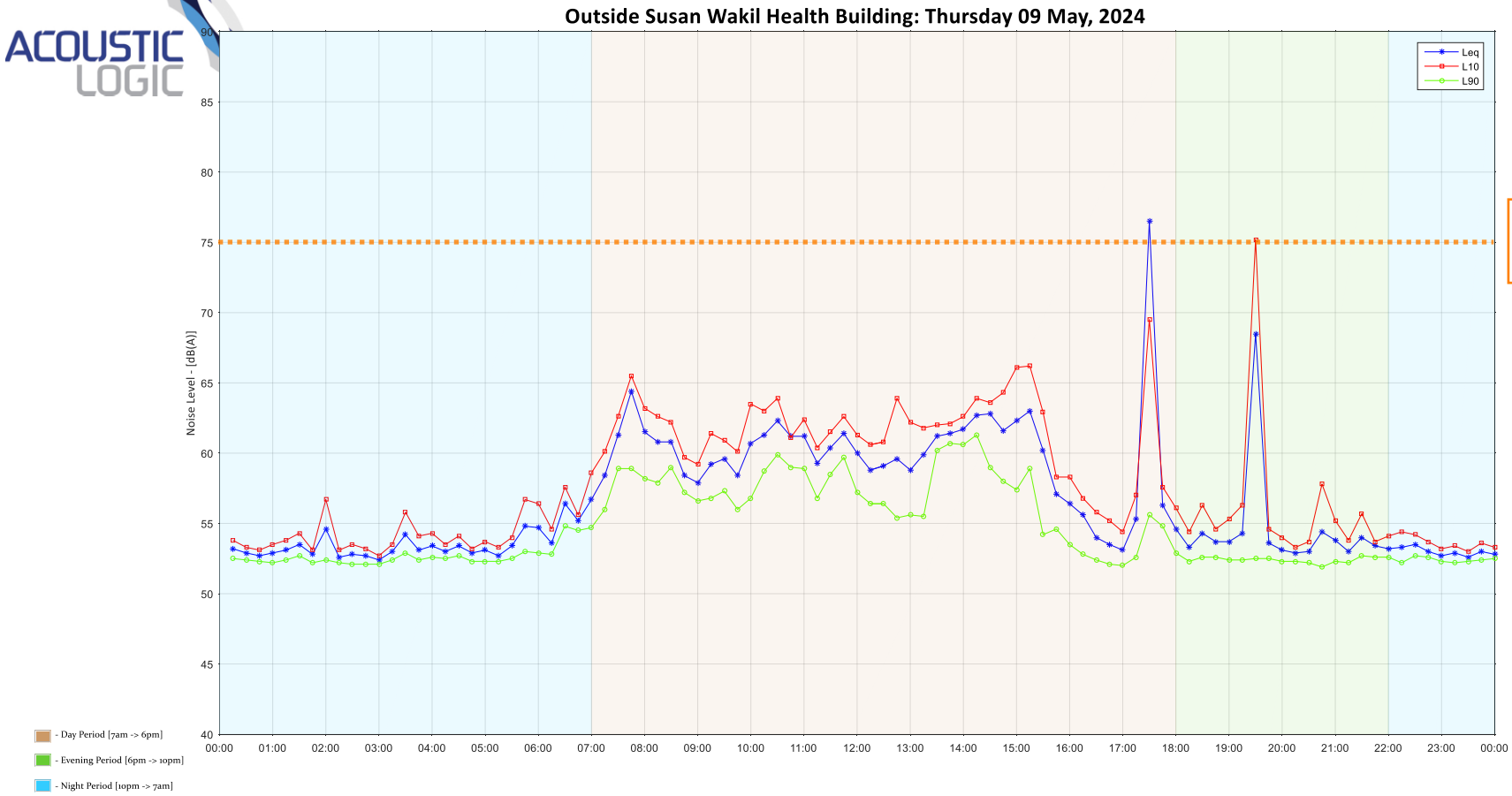


Education NML (Including correction) ≤ 75dB(A)L_{eq}

Outside Susan Wakil Health Building: Wednesday 08 May, 2024

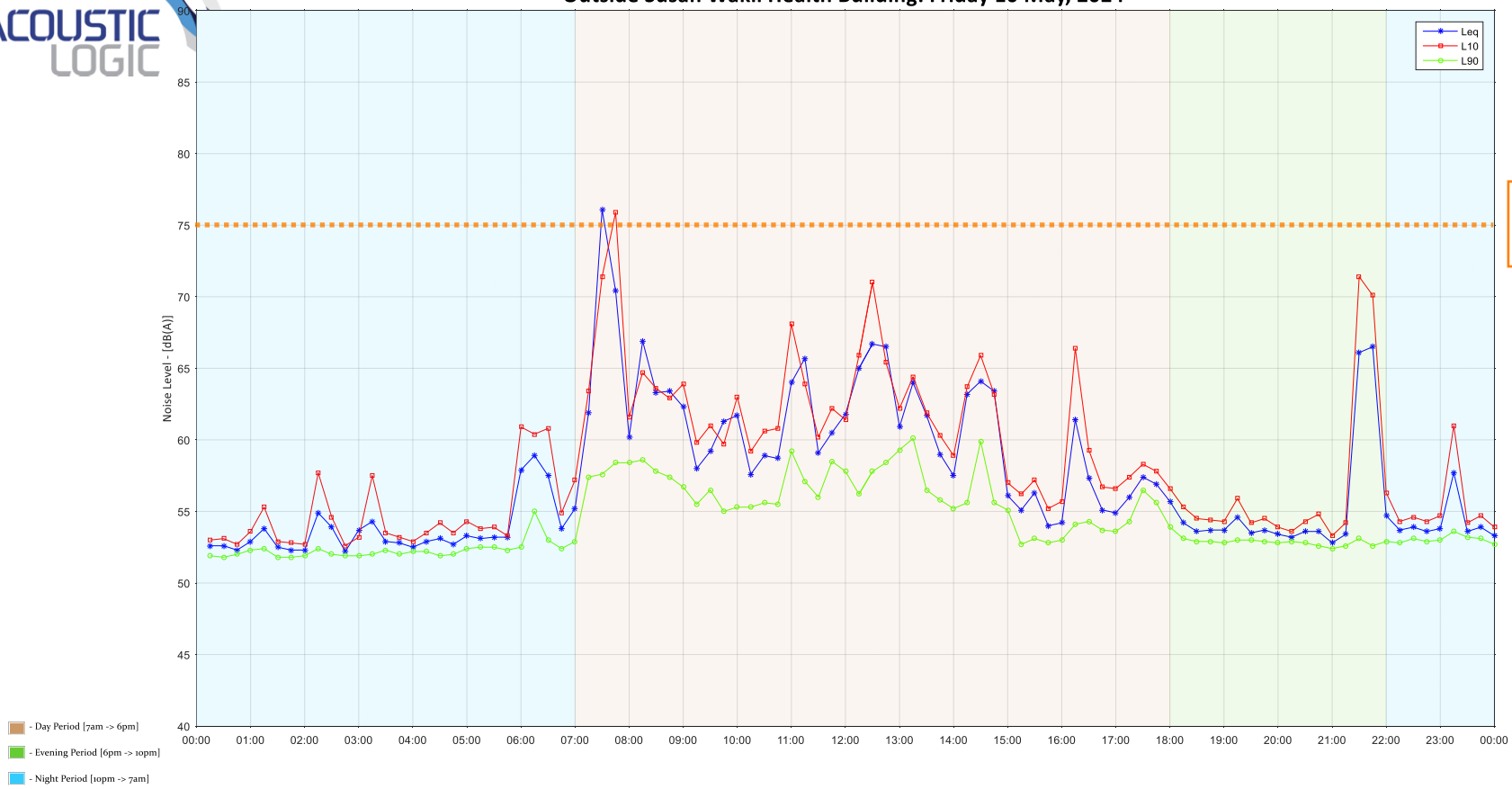


Education NML (Including correction) ≤ 75dB(A)L_{eq}



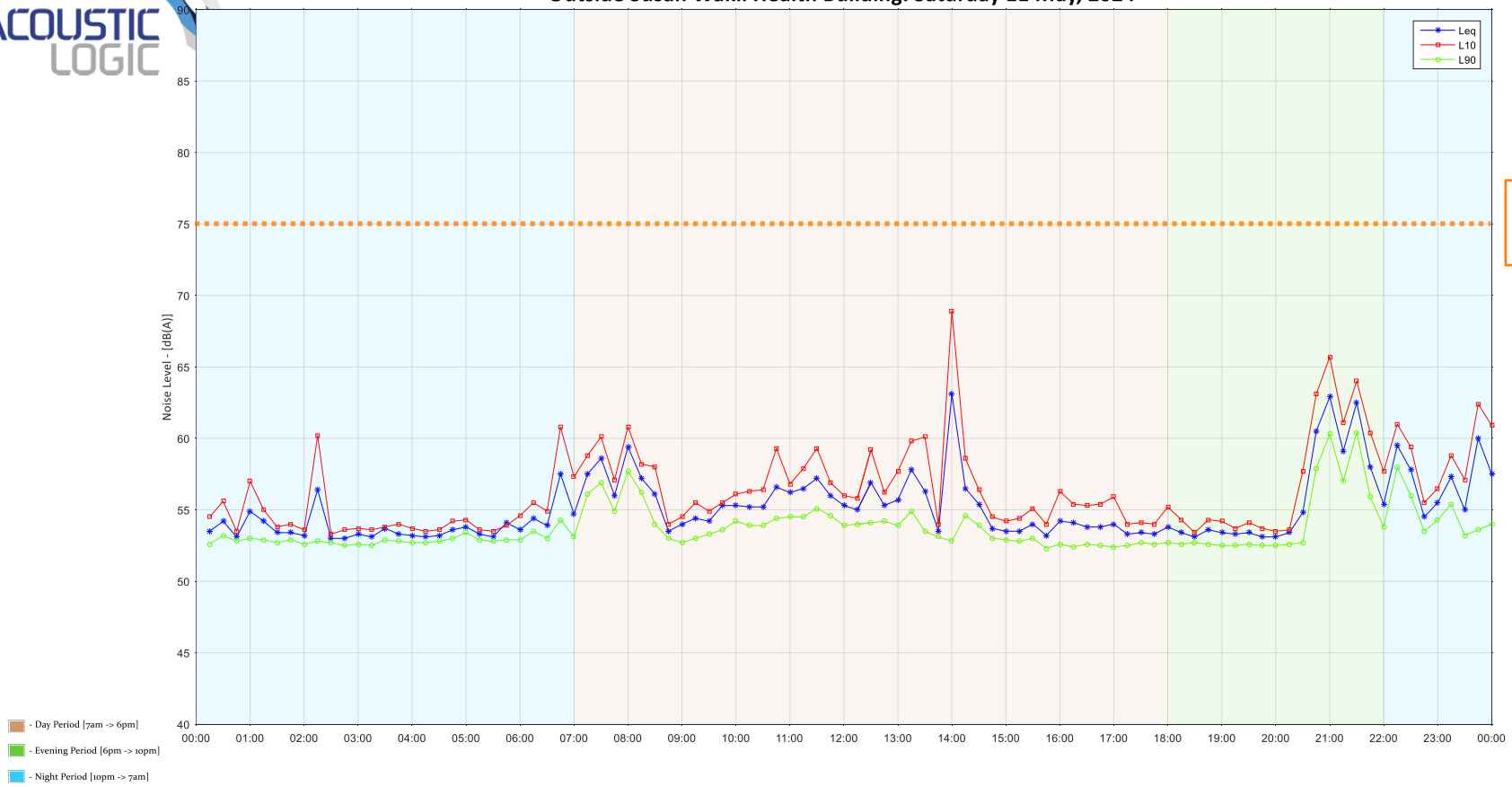
Education NML (Including correction) ≤ 75dB(A)L_{eq}

Outside Susan Wakil Health Building: Friday 10 May, 2024



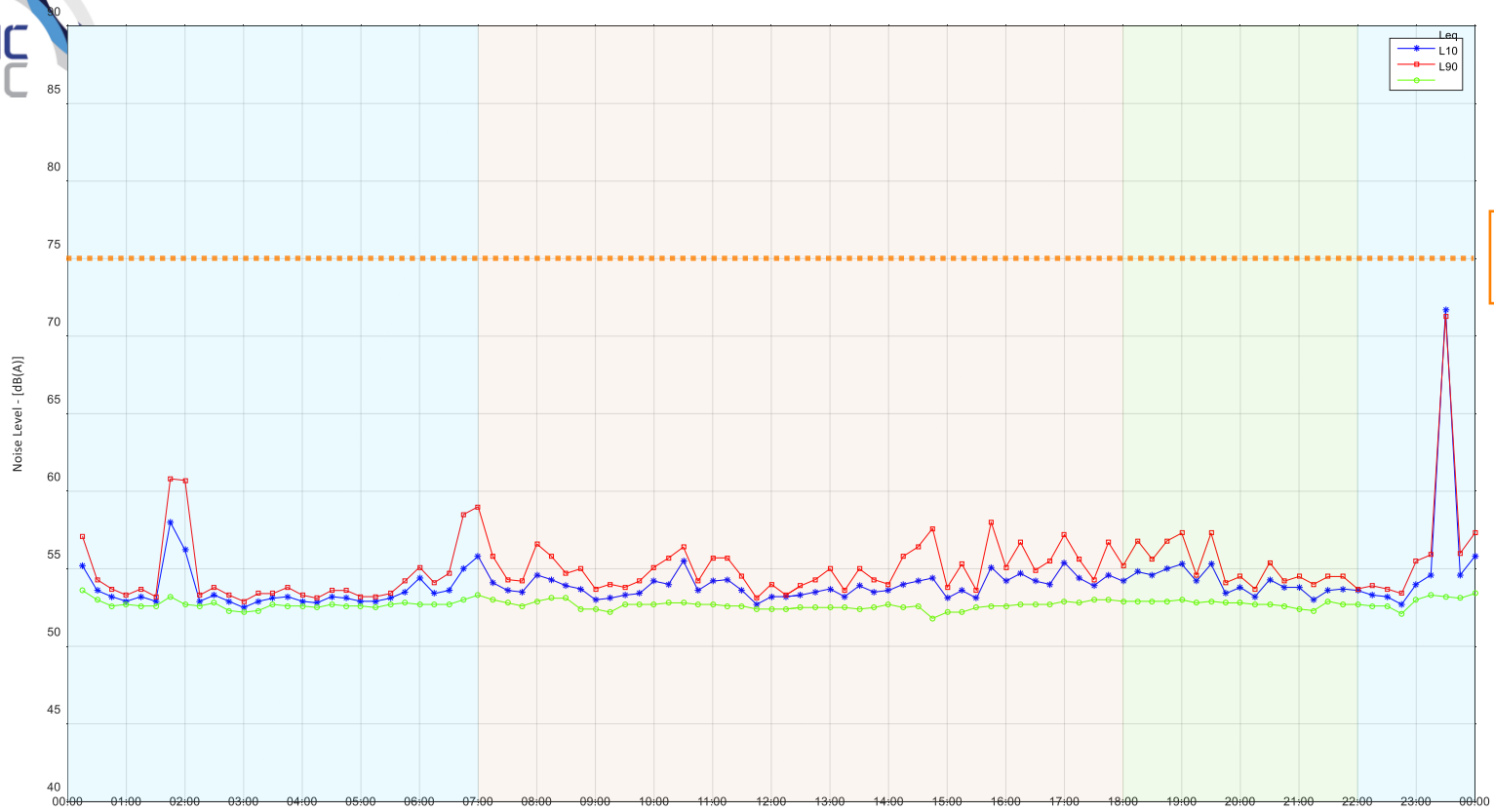
Education NML (Including correction) ≤ 75dB(A)L_{eq}

Outside Susan Wakil Health Building: Saturday 11 May, 2024



Education NML (Including correction) ≤ 75dB(A)L_{eq}

Outside Susan Wakil Health Building: Sunday 12 May, 2024

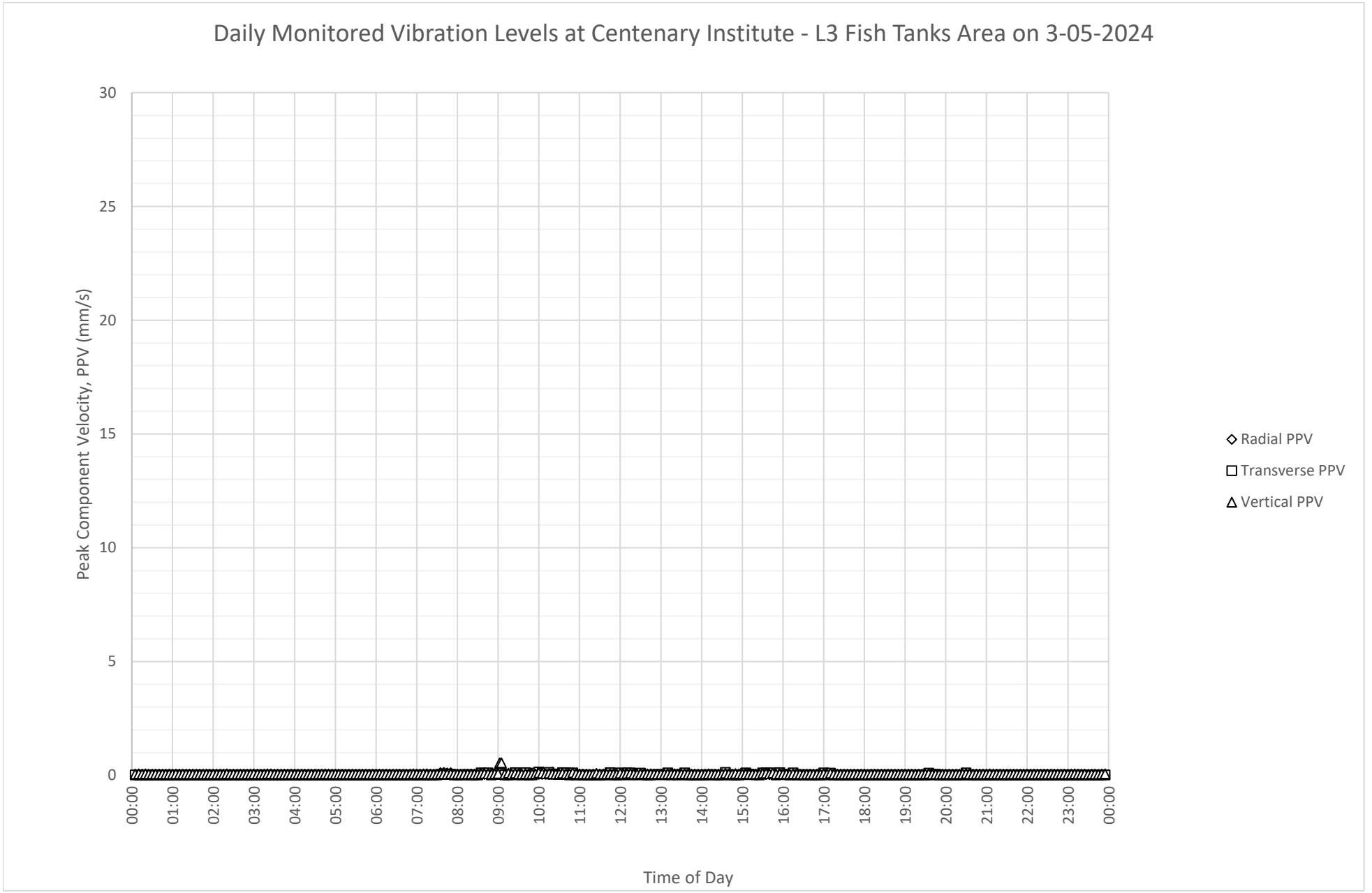


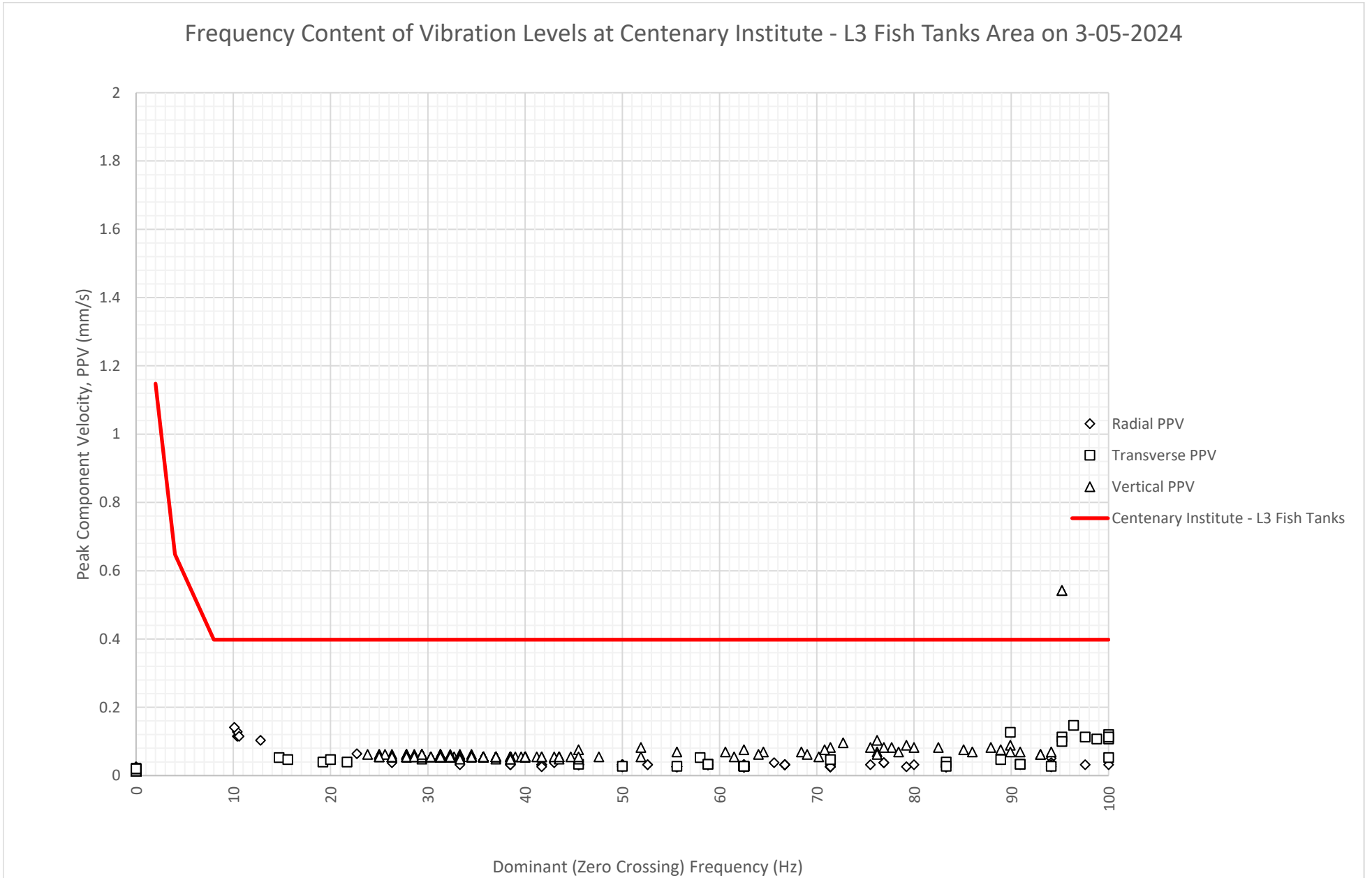
Education NML (Including correction) ≤ 75dB(A)L_{eq}

APPENDIX B – VIBRATION MONITORING RESULTS

Note that only dates where exceedances of events were experienced have been provided as per discussion with relevant stakeholders.

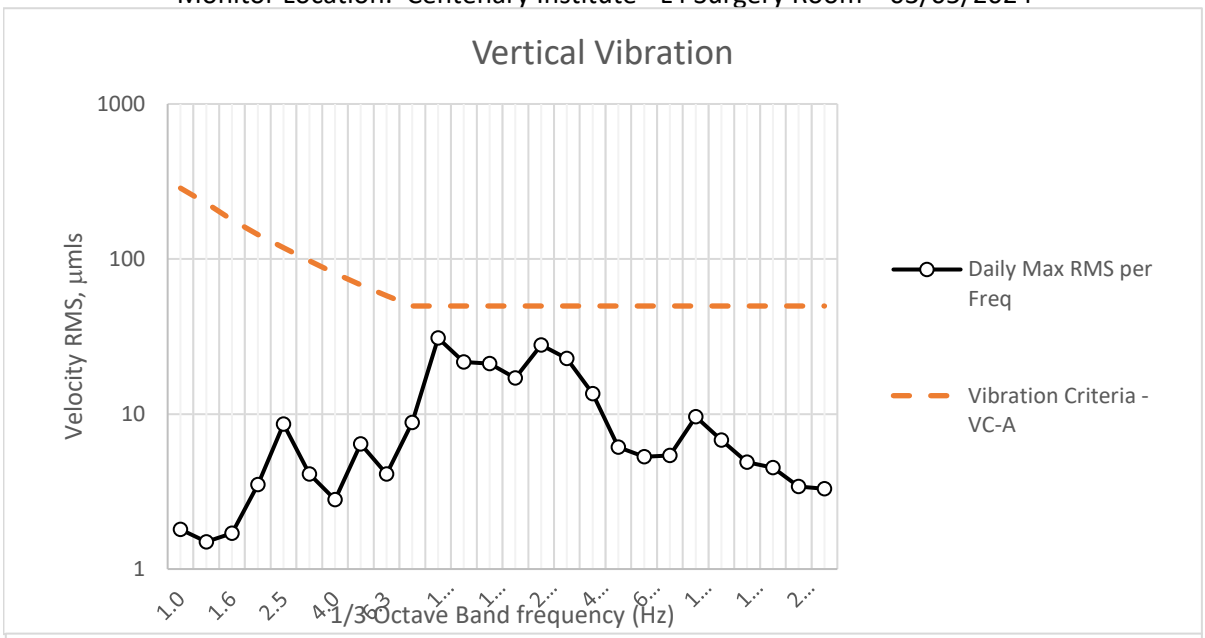
CENTENARY INSTITUTE – LEVEL 3 FISH TANKS

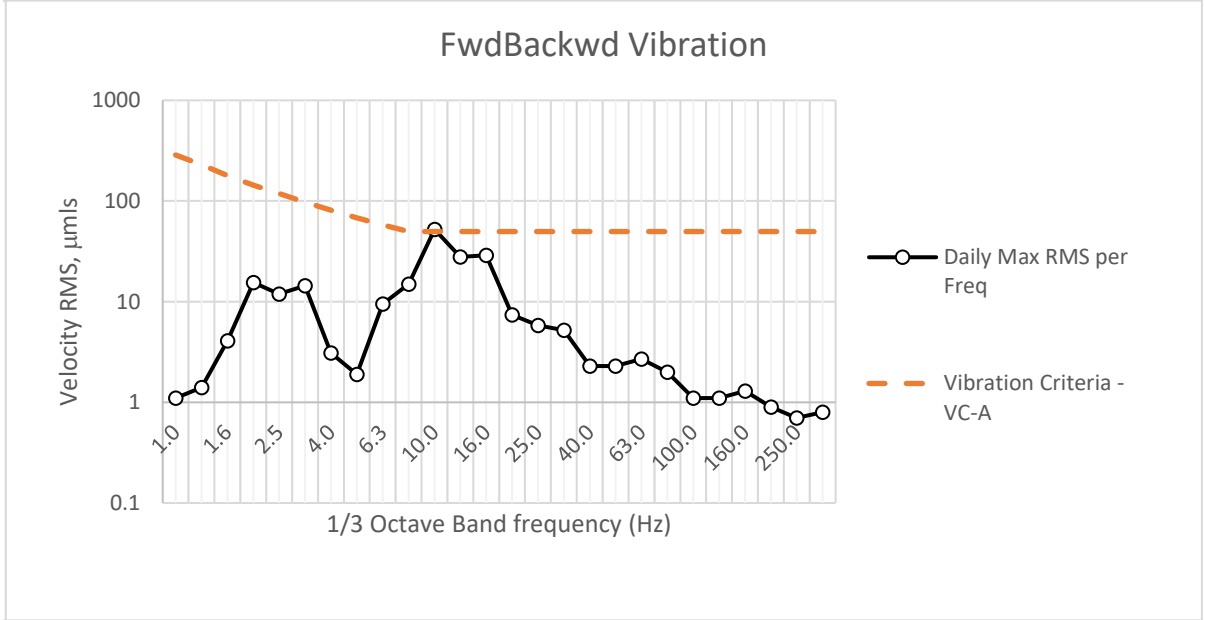

Daily Monitored Vibration Levels at Centenary Institute - L3 Fish Tanks Area on 3-05-2024
Peak Component Velocity, PPV (mm/s)
30
25
20
15
10
5
0
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Time of Day
Radial PPV
Transverse PPV
Vertical PPV

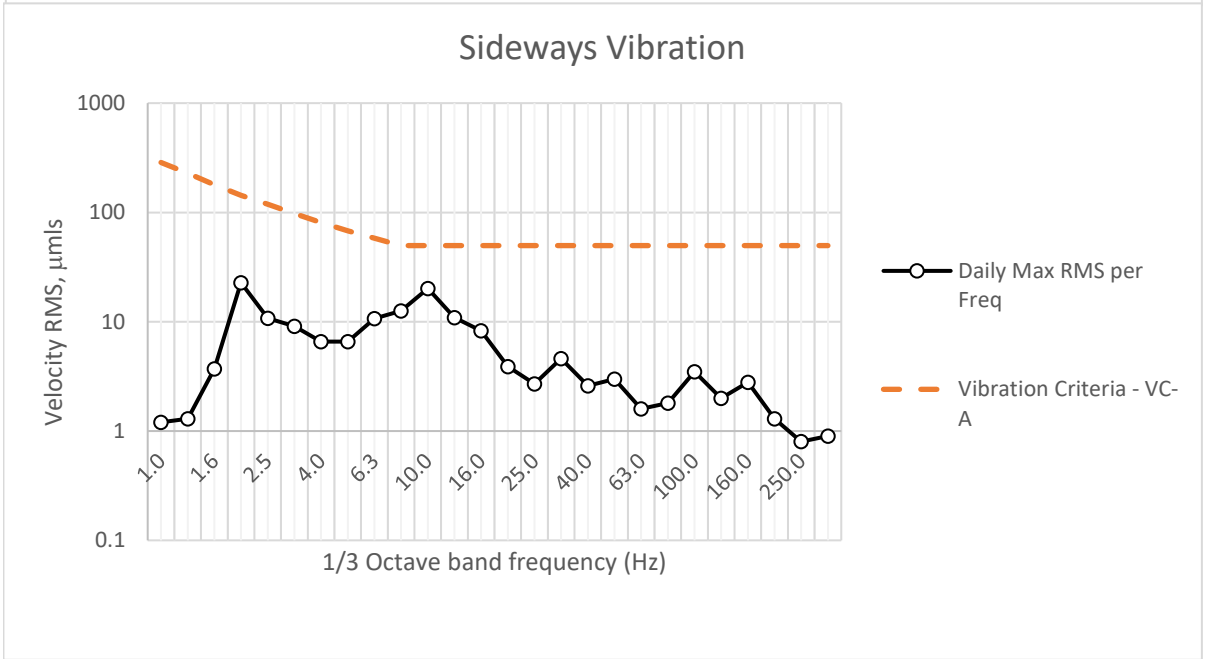

Frequency Content of Vibration Levels at Centenary Institute - L3 Fish Tanks Area on 3-05-2024
Peak Component Velocity, PPV (mm/s)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
Dominant (Zero Crossing) Frequency (Hz)
Radial PPV
Transverse PPV
Vertical PPV
Centenary Institute - L3 Fish Tanks

CENTENARY INSTITUTE – LEVEL 4 SURGERY ROOM (SOUTHERN FAÇADE)

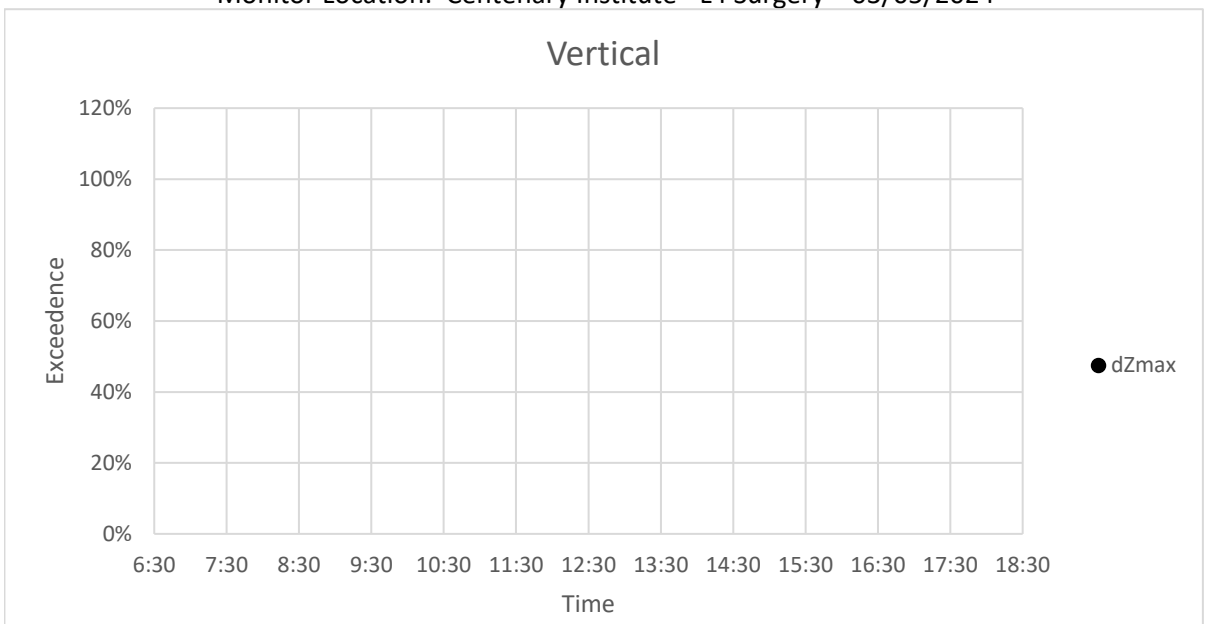
Monitor Location: Centenary Institute - L4 Surgery Room 03/05/2024

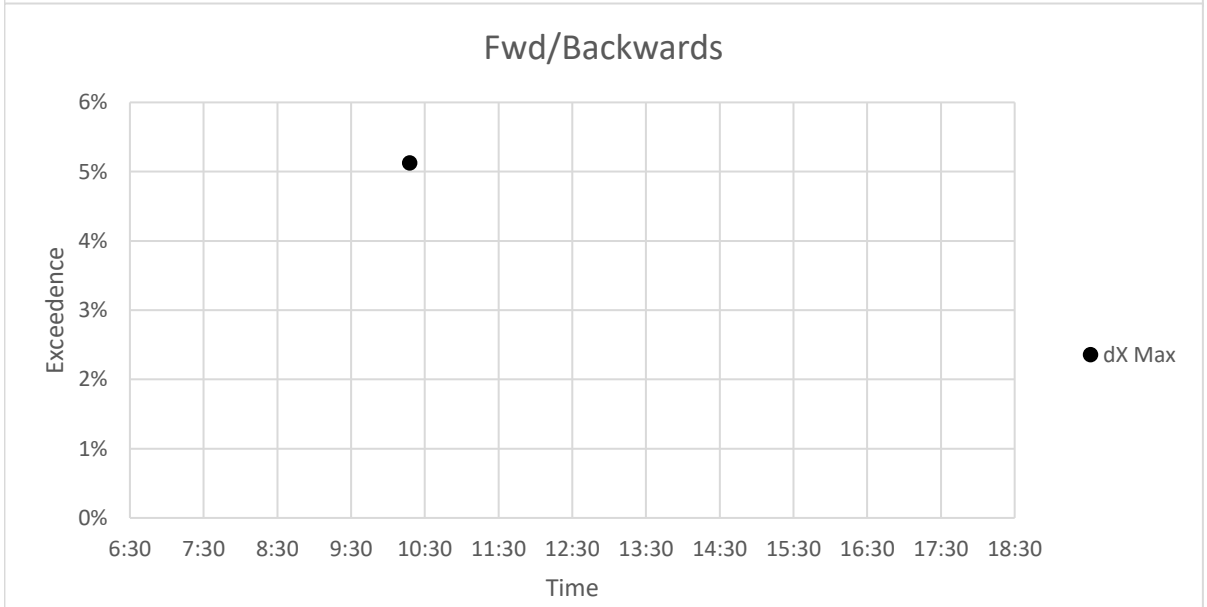


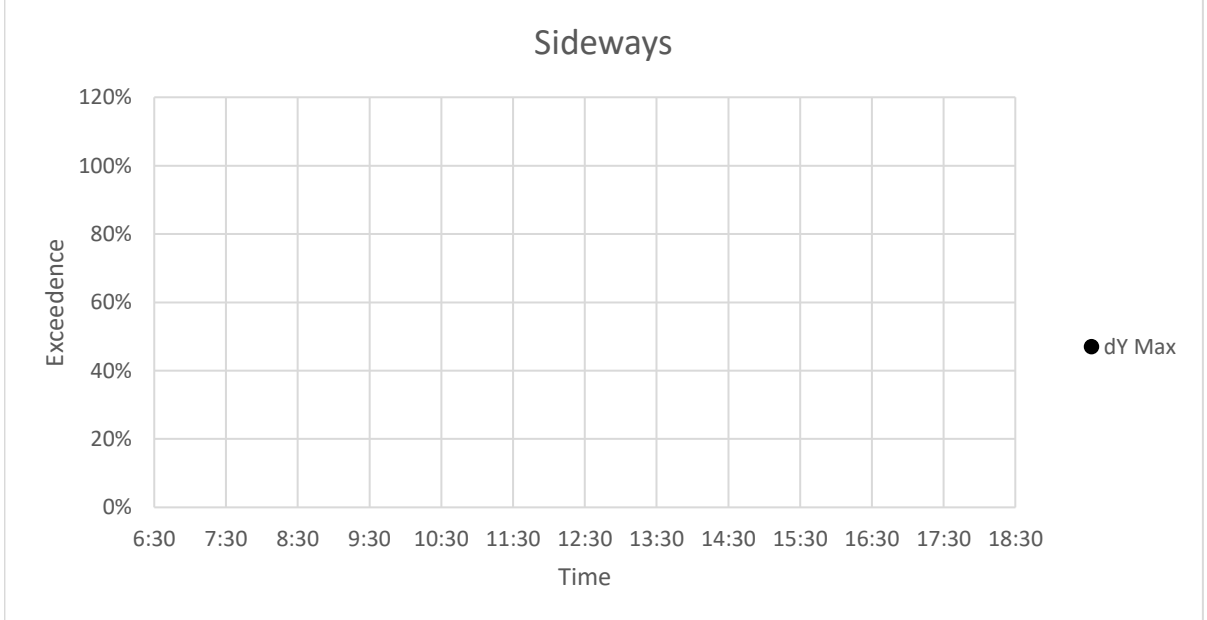




Monitor Location: Centenary Institute - L4 Surgery 03/05/2024

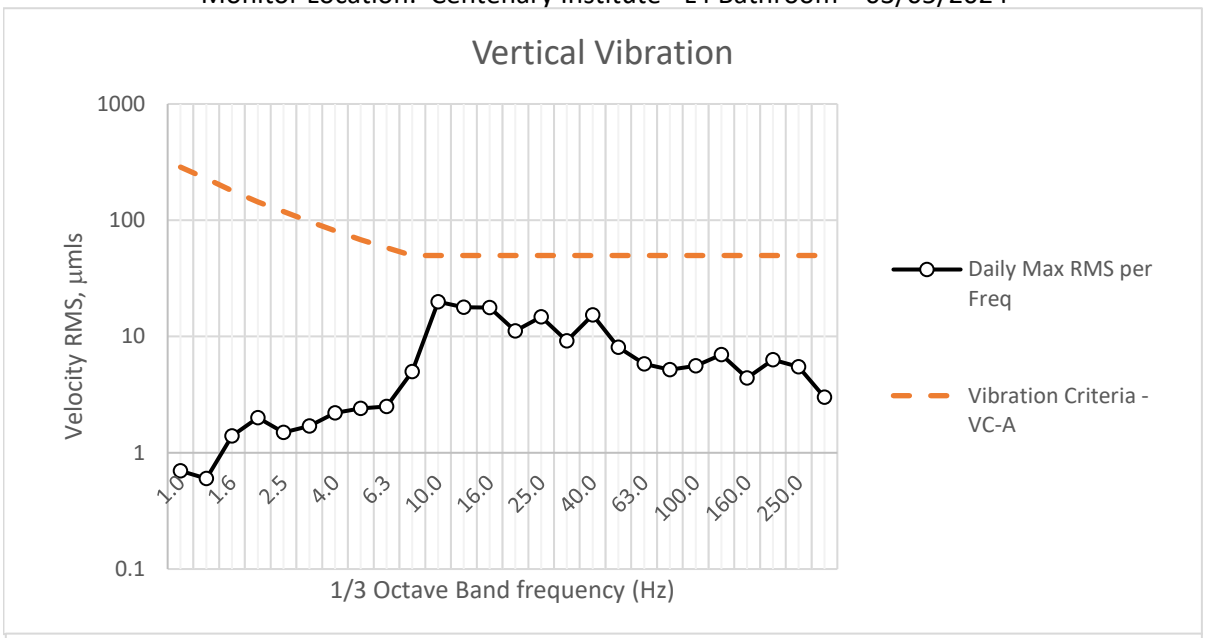


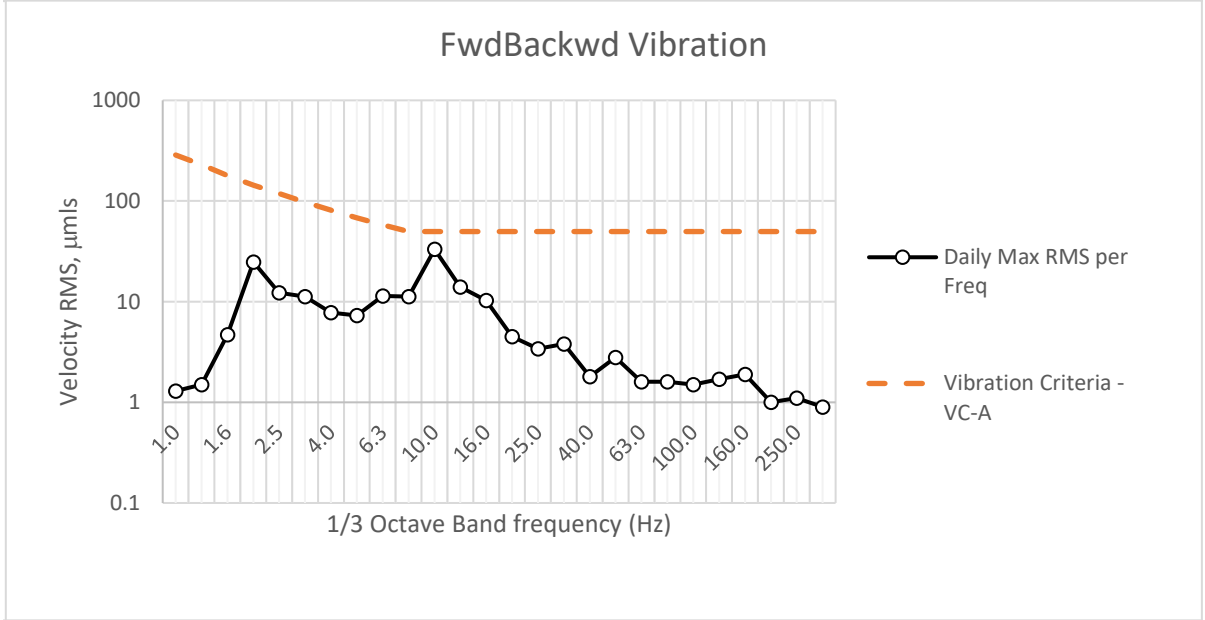


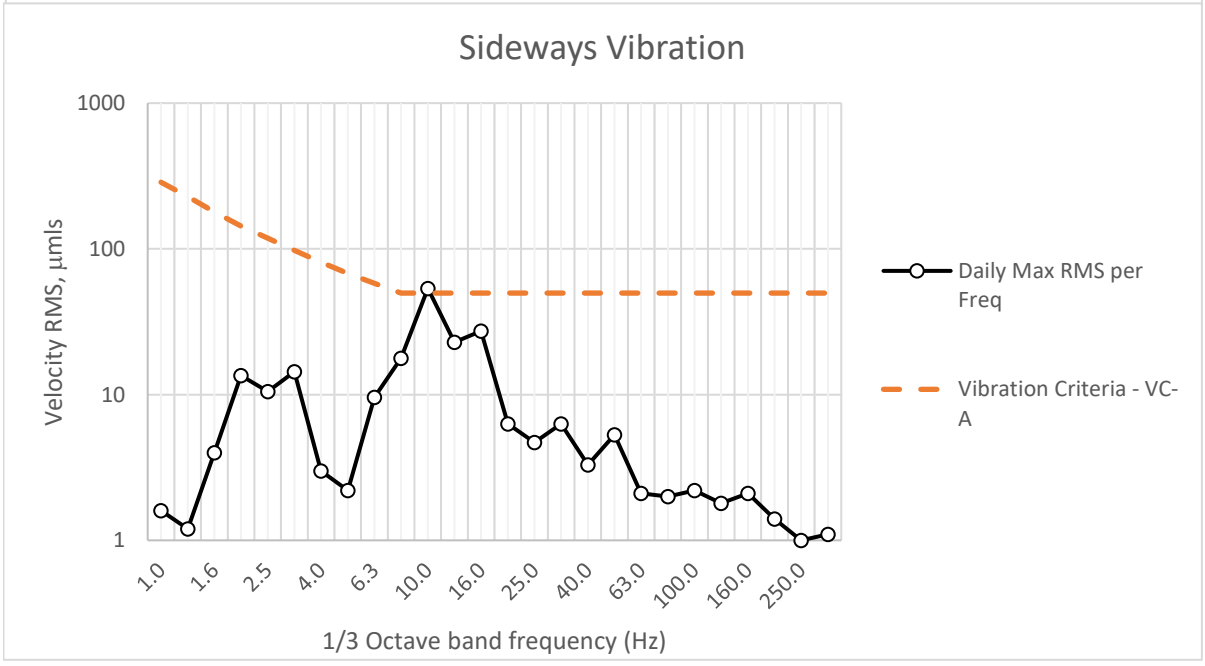


CENTENARY INSTITUTE – LEVEL 4 BATHROOM (NORTHERN FAÇADE)

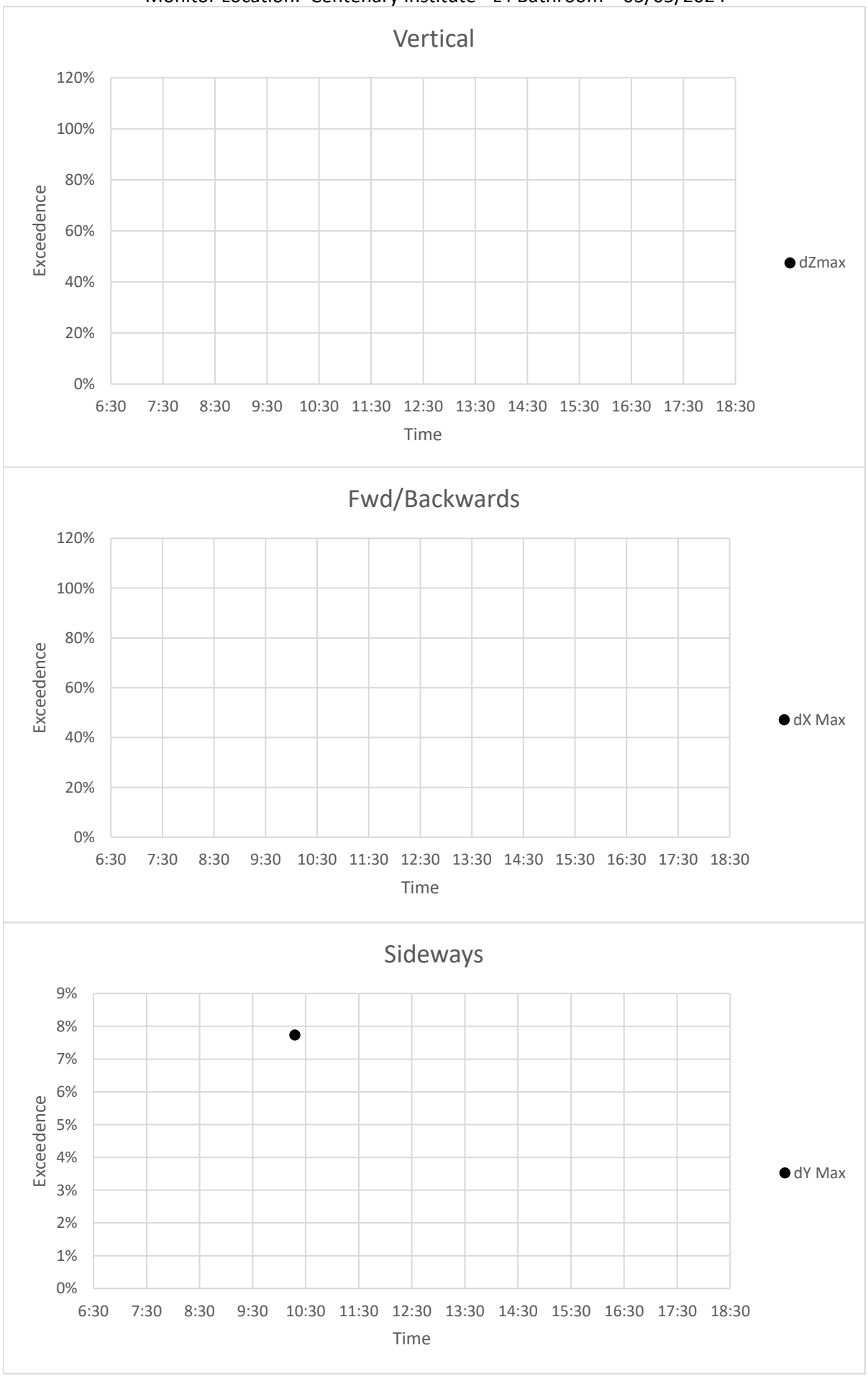
Monitor Location: Centenary Institute - L4 Bathroom 03/05/2024







Monitor Location: Centenary Institute - L4 Bathroom 03/05/2024

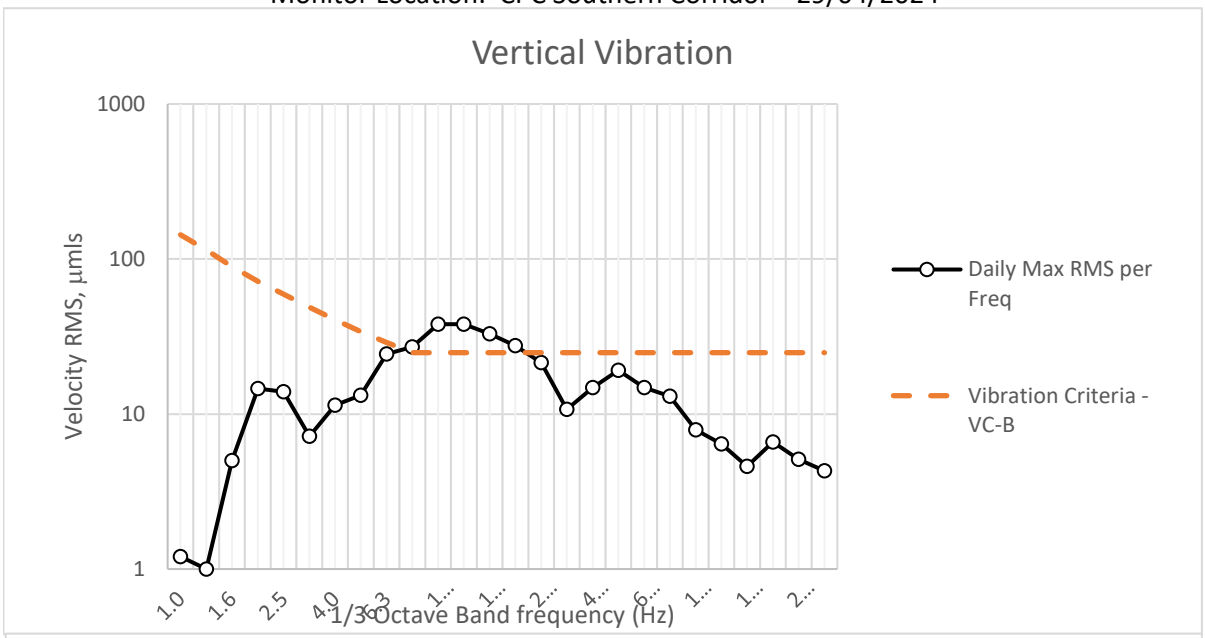


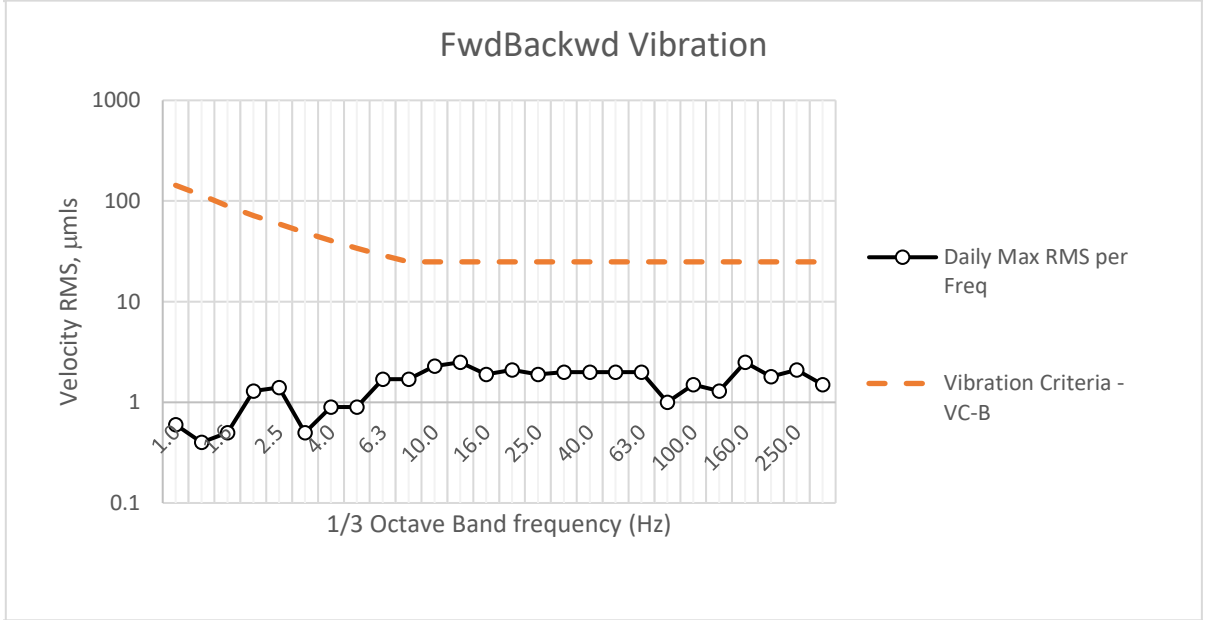
CENTENARY INSTITUTE – LEVEL 4 SE CORNER EXPERIMENTATION ROOM (SOUTHERN FAÇADE)

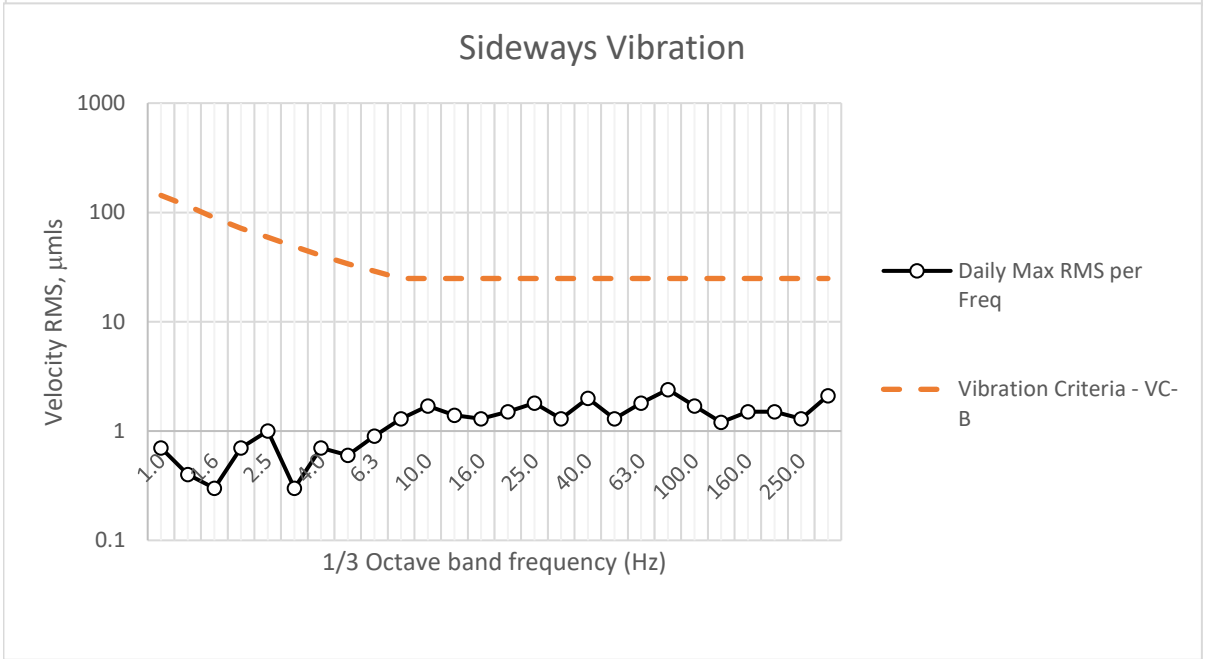
No exceedances occurred during the monitoring period.

CHARLES PERKINS CENTRE – LEVEL B1 SOUTHERN CORRIDOR

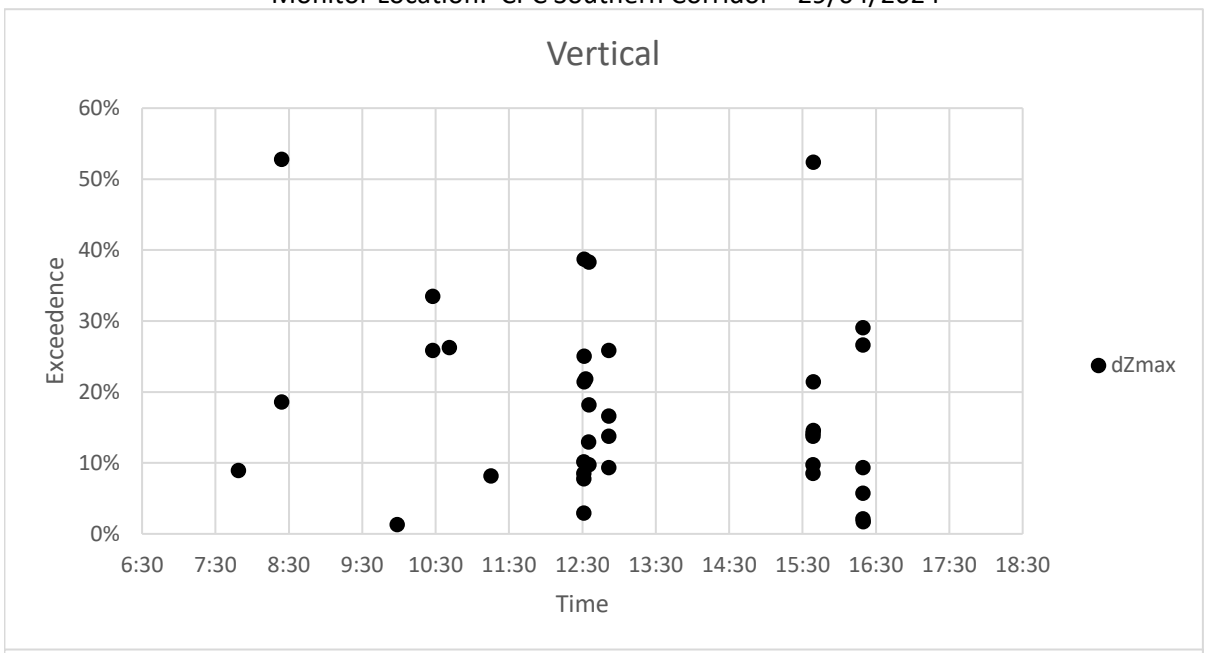
Monitor Location: CPC Southern Corridor 29/04/2024

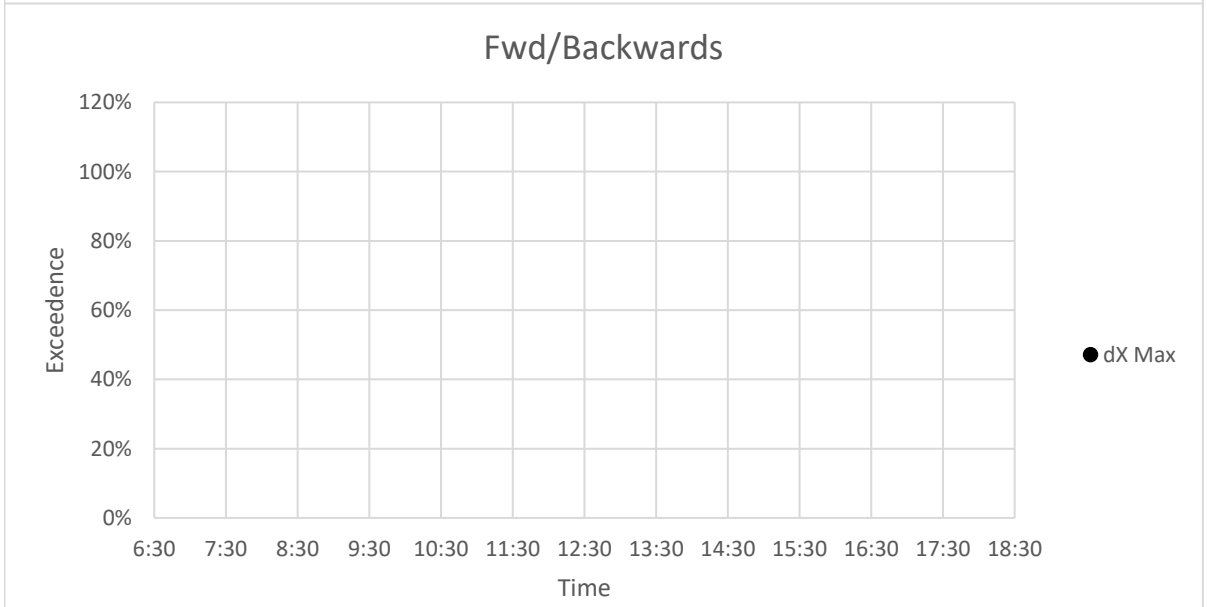


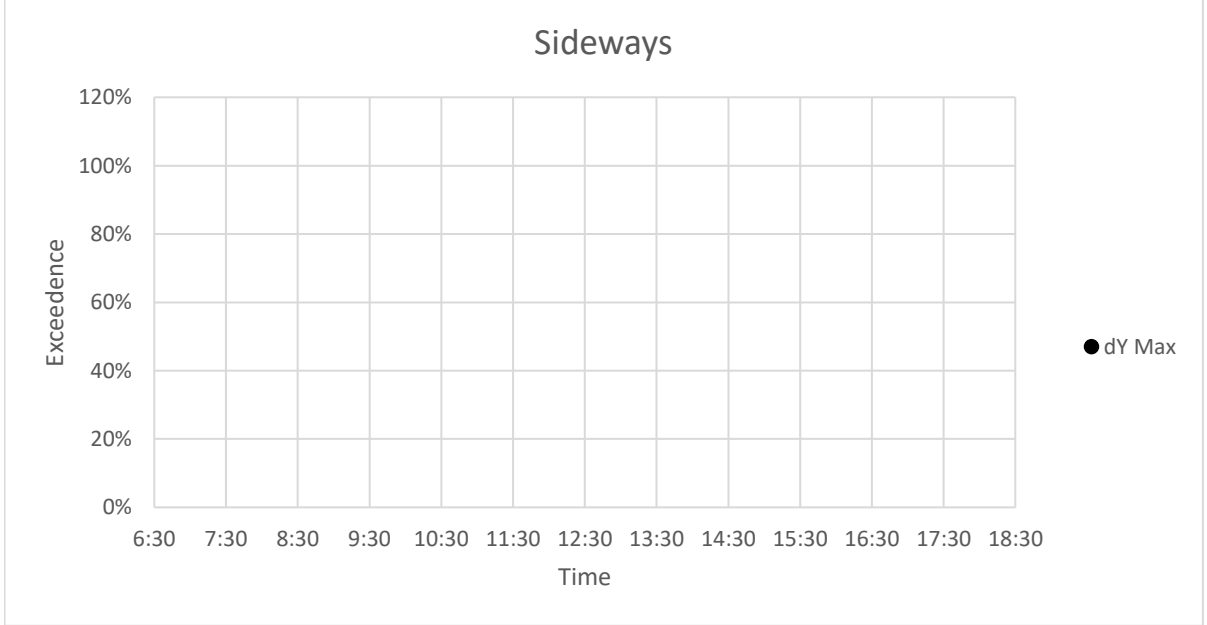




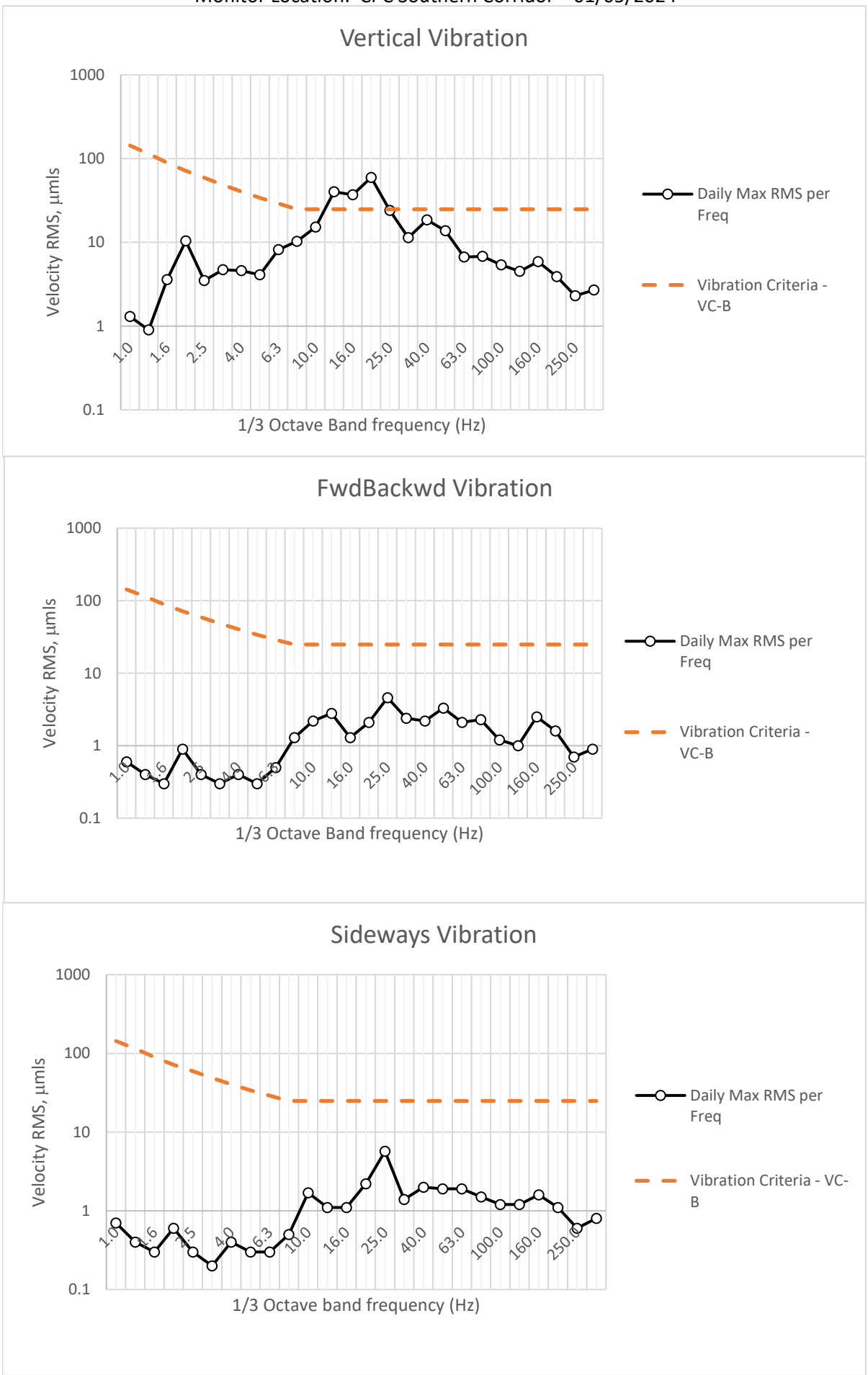
Monitor Location: CPC Southern Corridor 29/04/2024



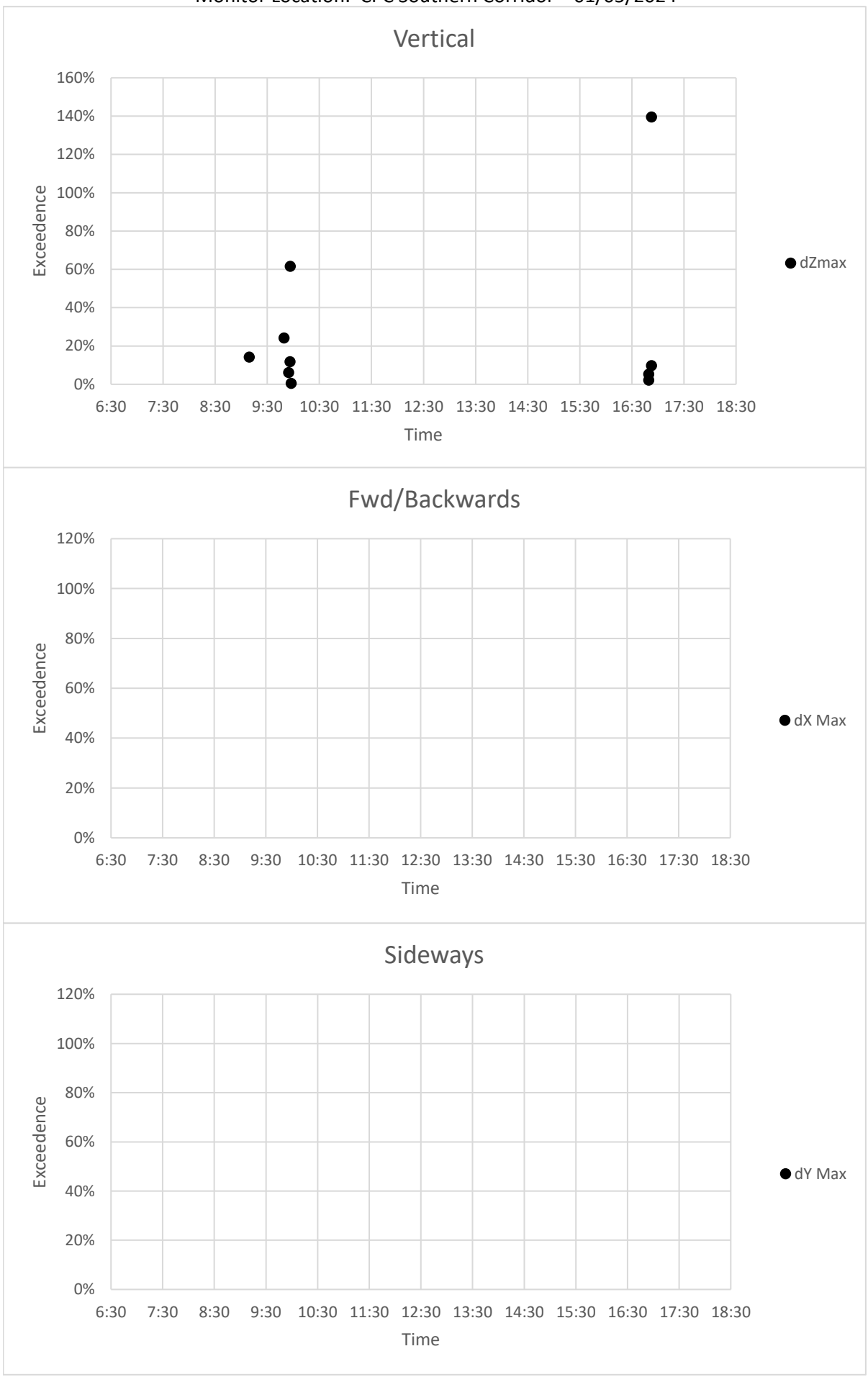




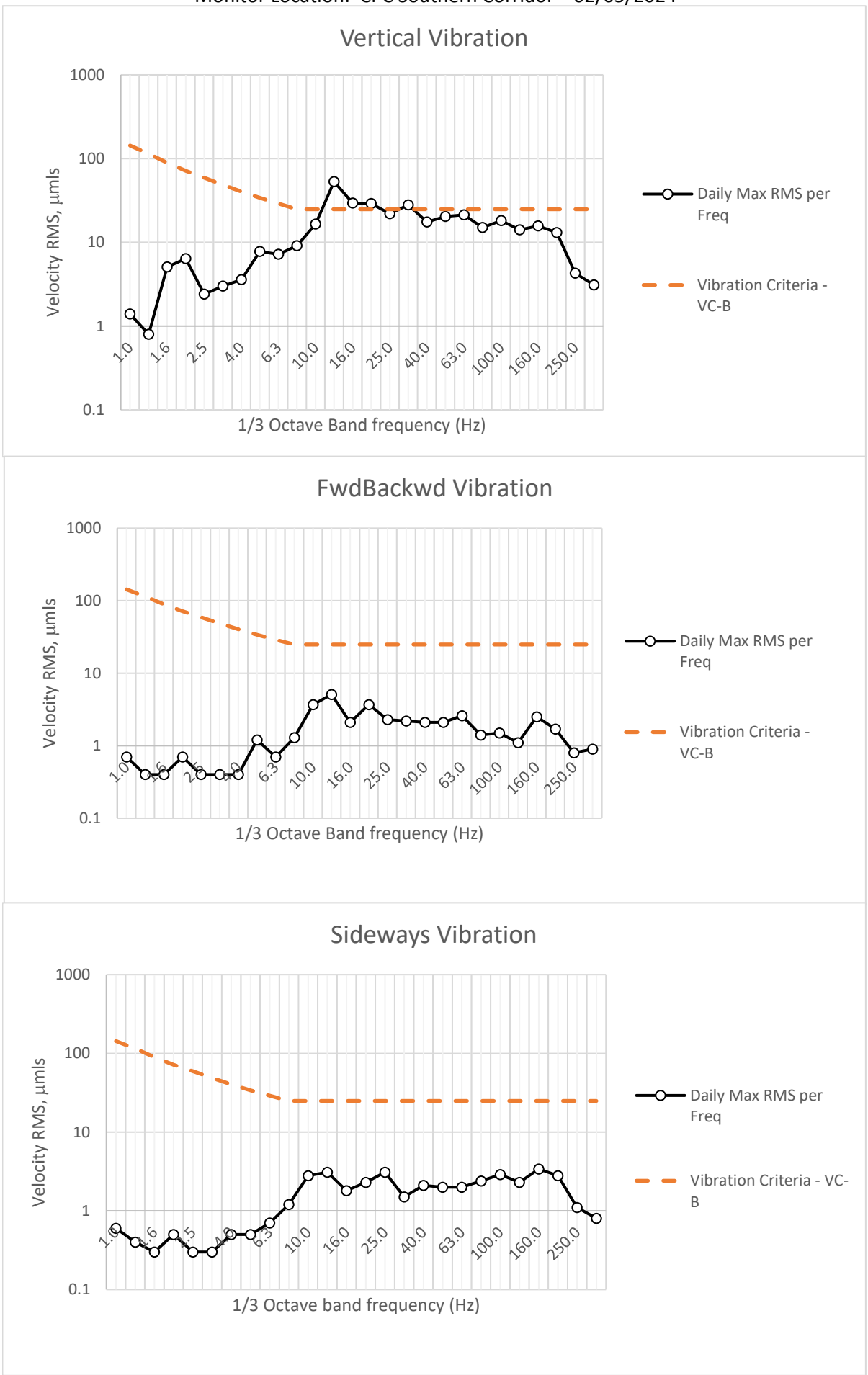
Monitor Location: CPC Southern Corridor 01/05/2024



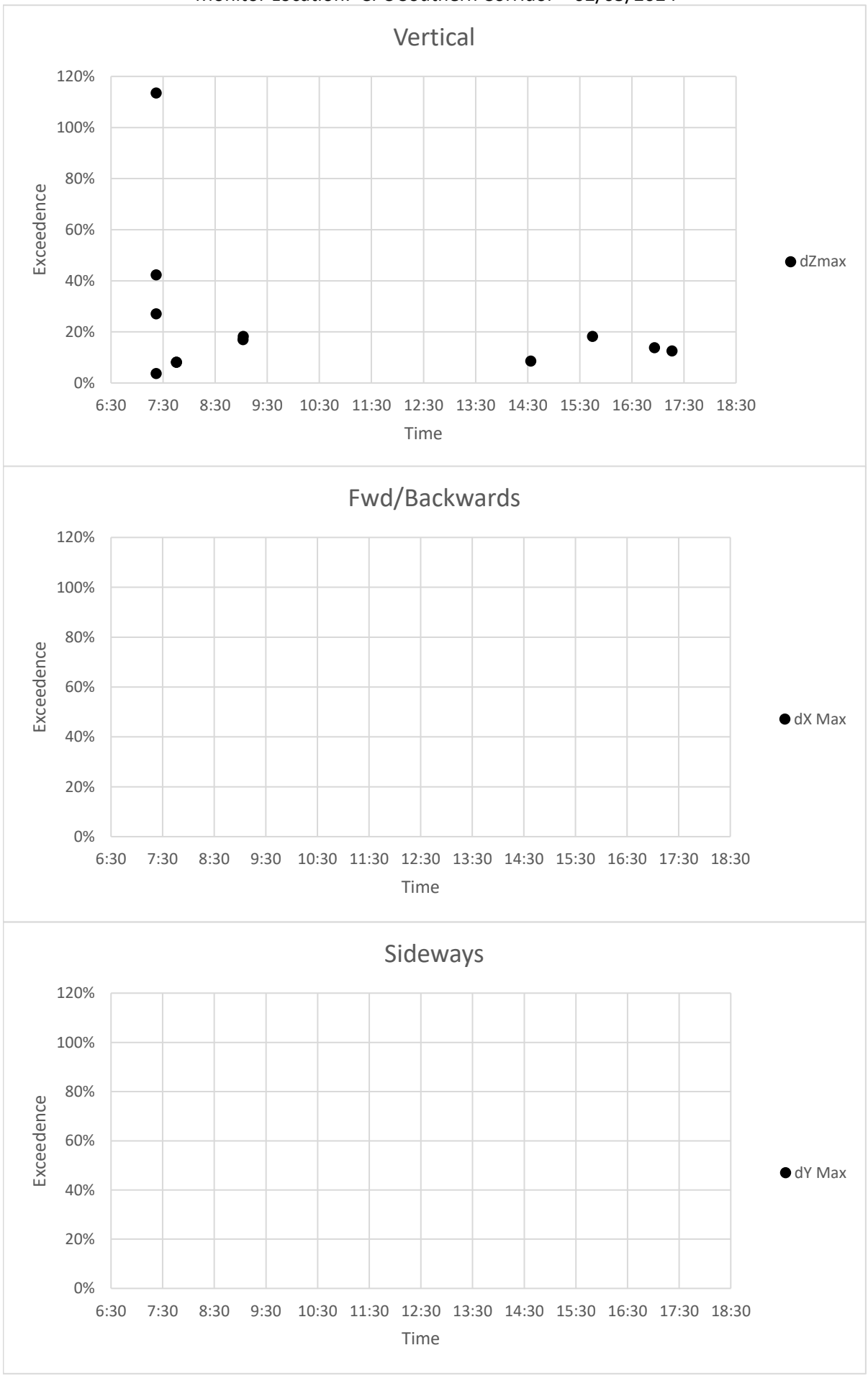
Monitor Location: CPC Southern Corridor 01/05/2024



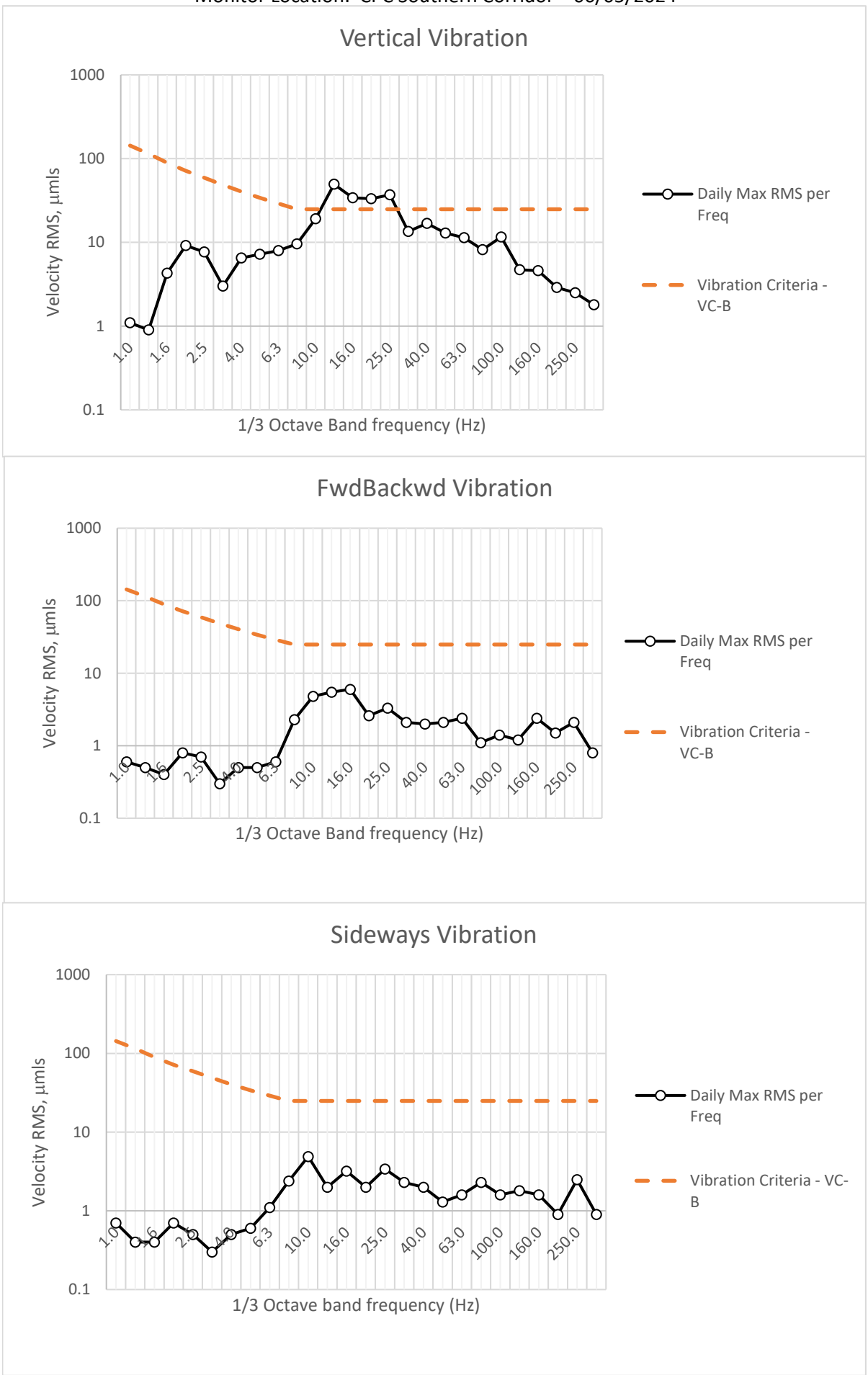
Monitor Location: CPC Southern Corridor 02/05/2024



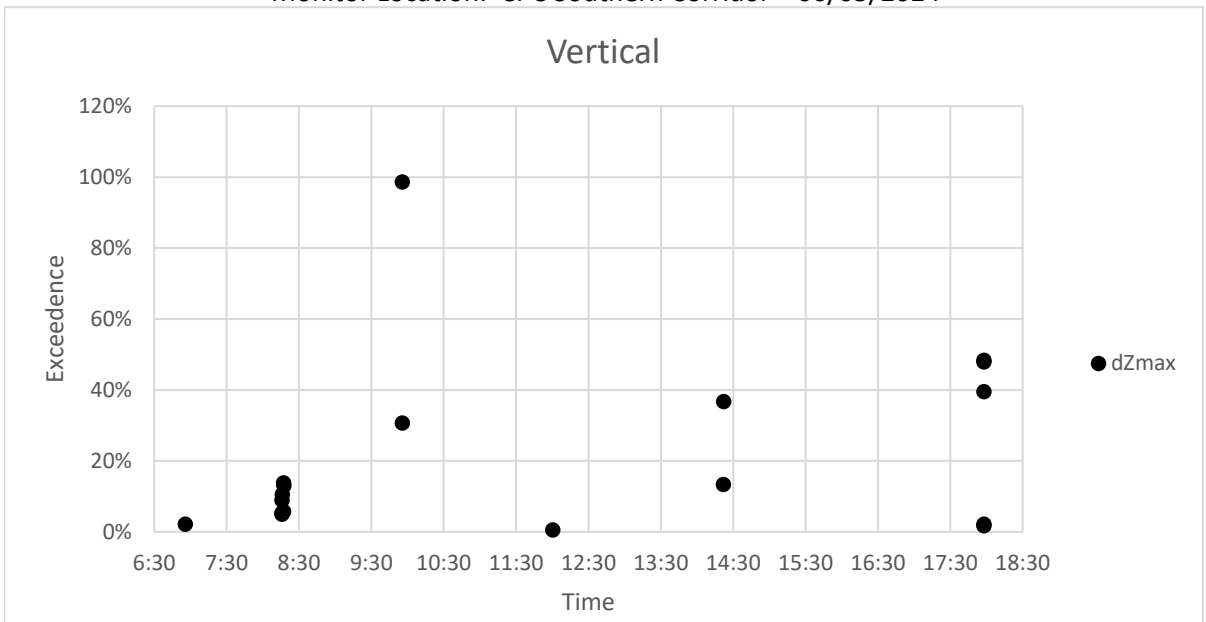
Monitor Location: CPC Southern Corridor 02/05/2024

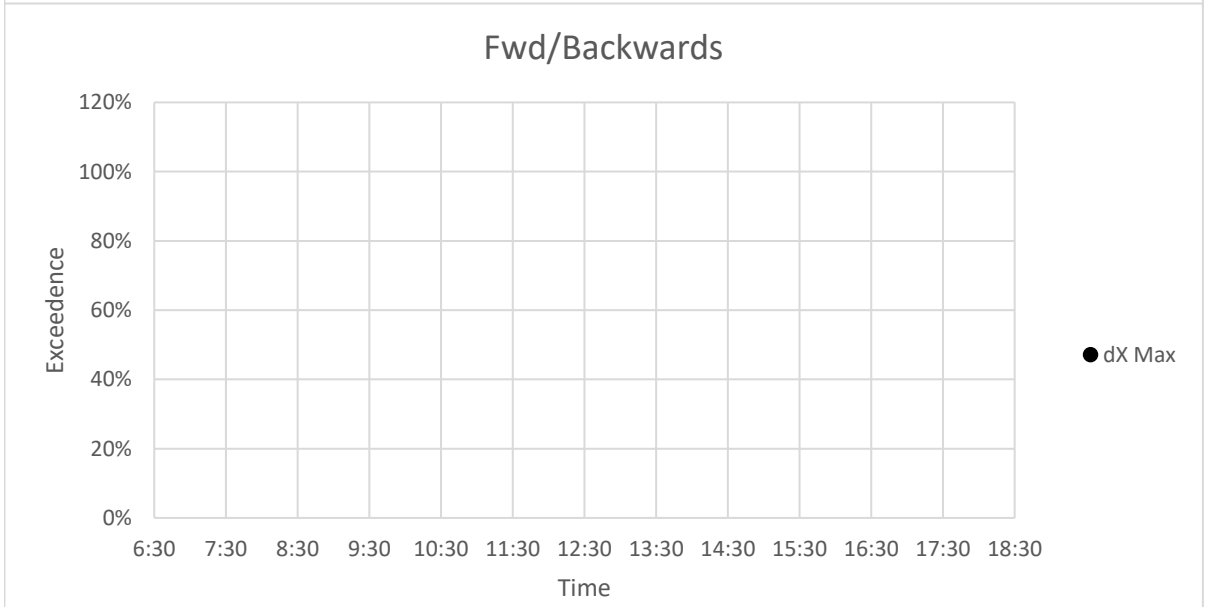


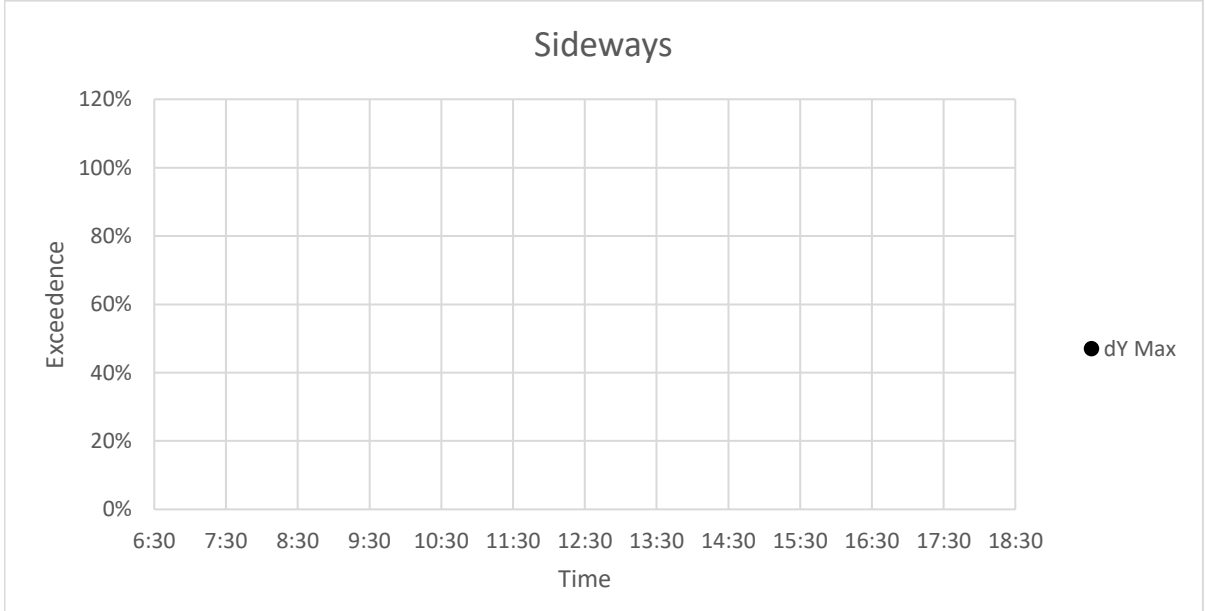
Monitor Location: CPC Southern Corridor 06/05/2024



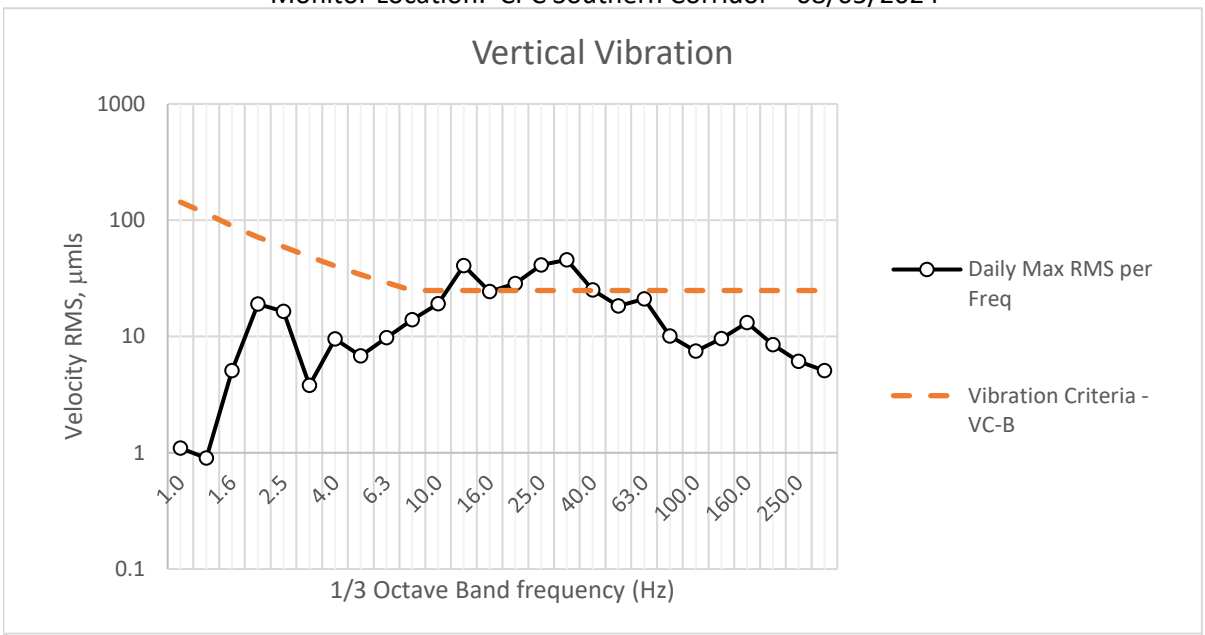
Monitor Location: CPC Southern Corridor 06/05/2024

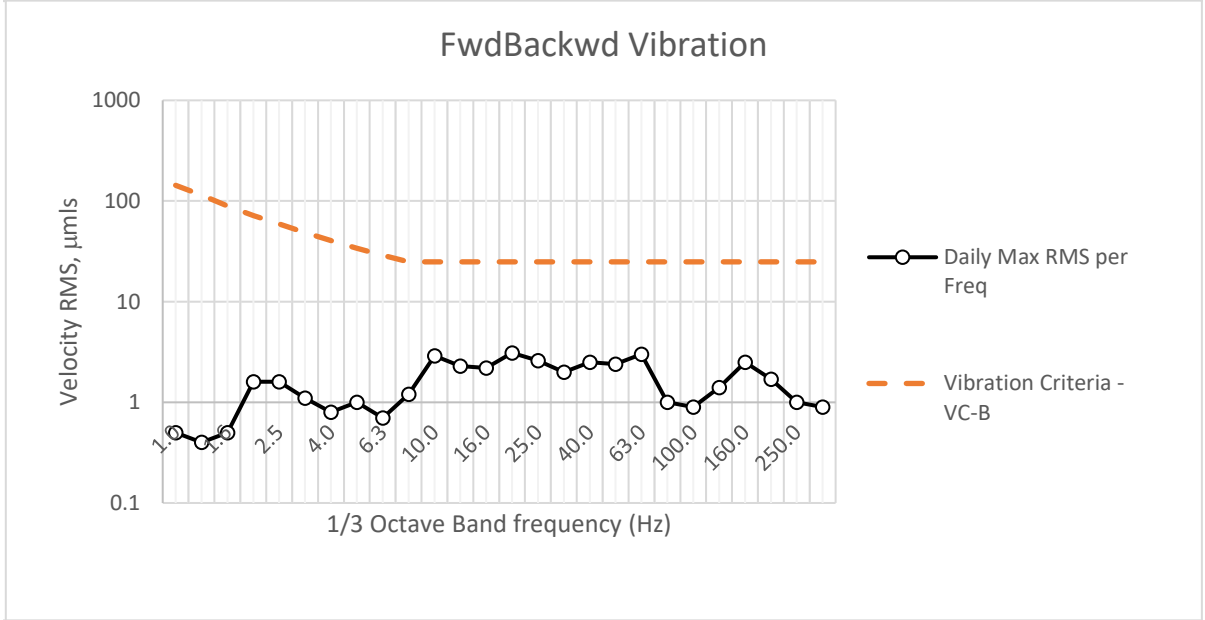


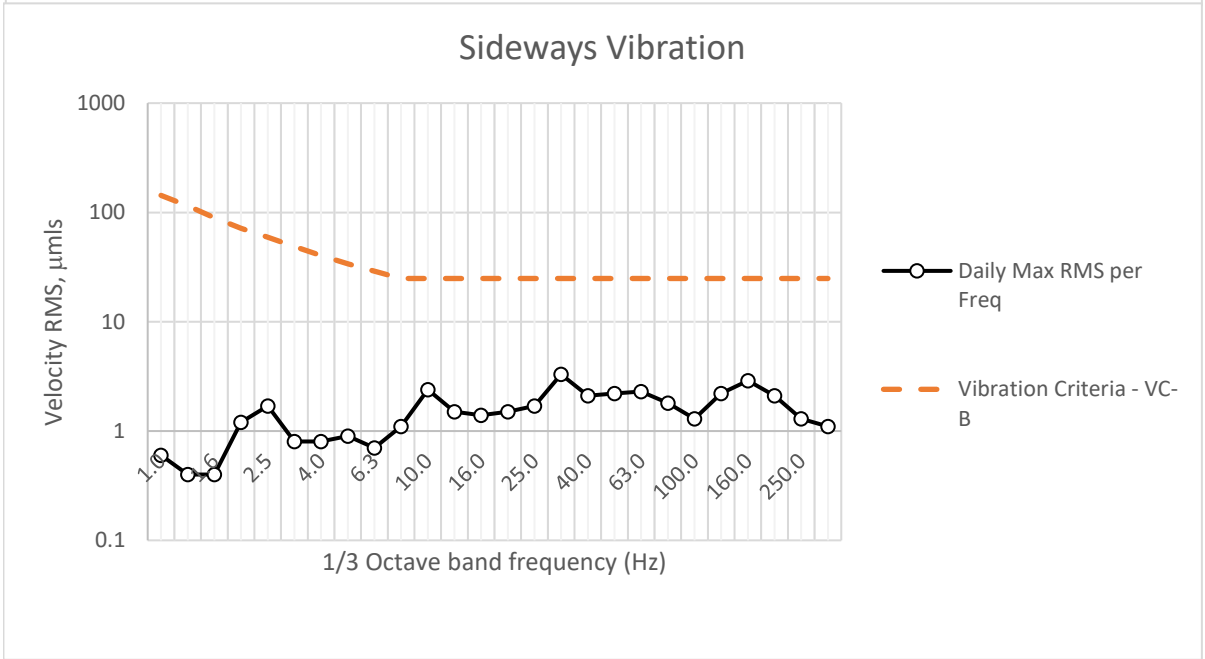




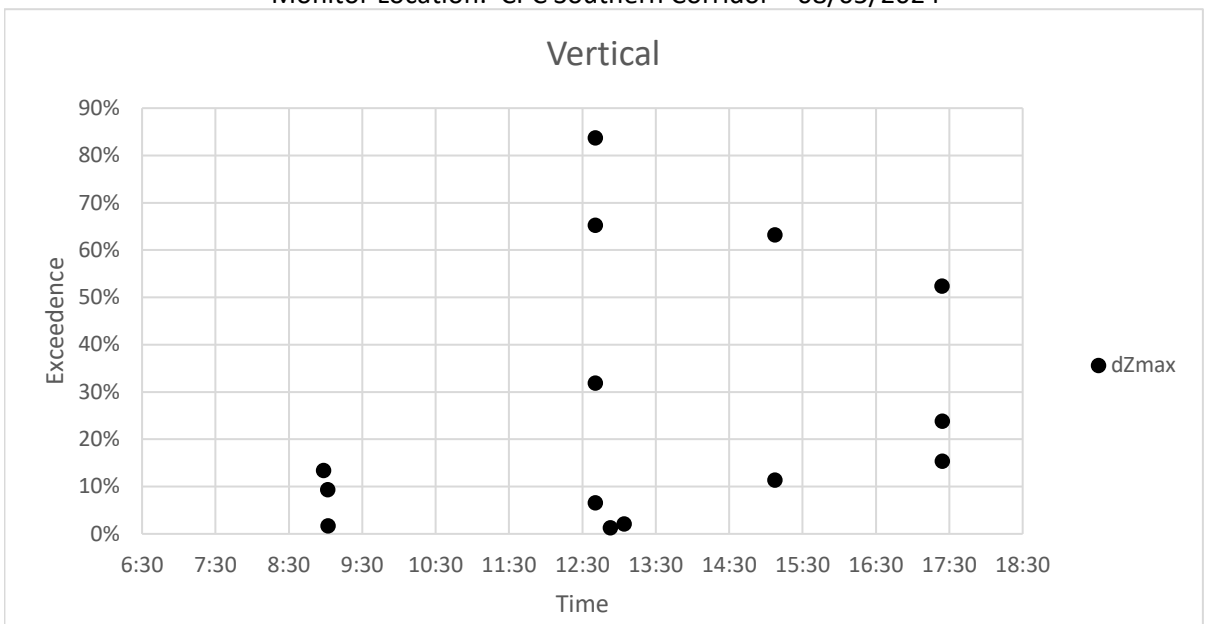
Monitor Location: CPC Southern Corridor 08/05/2024

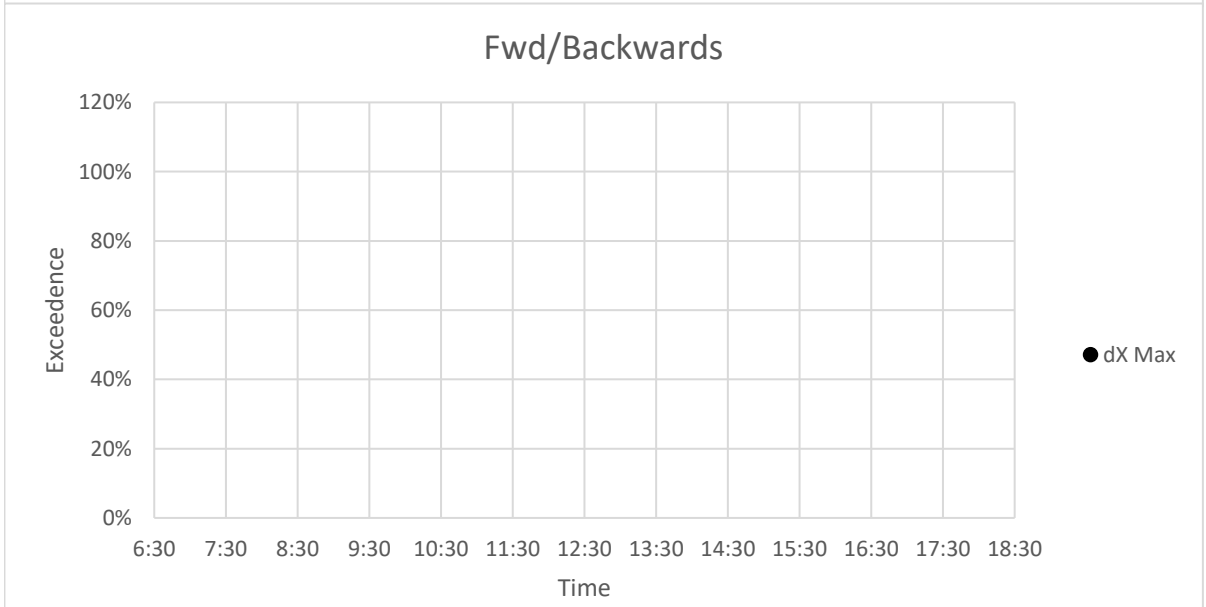


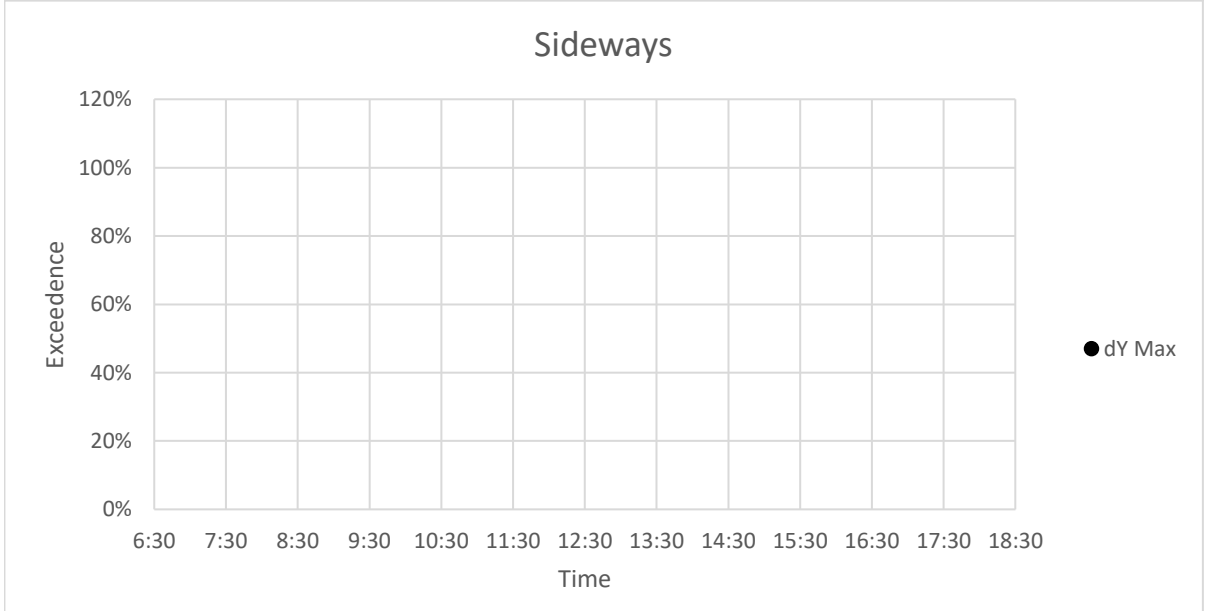




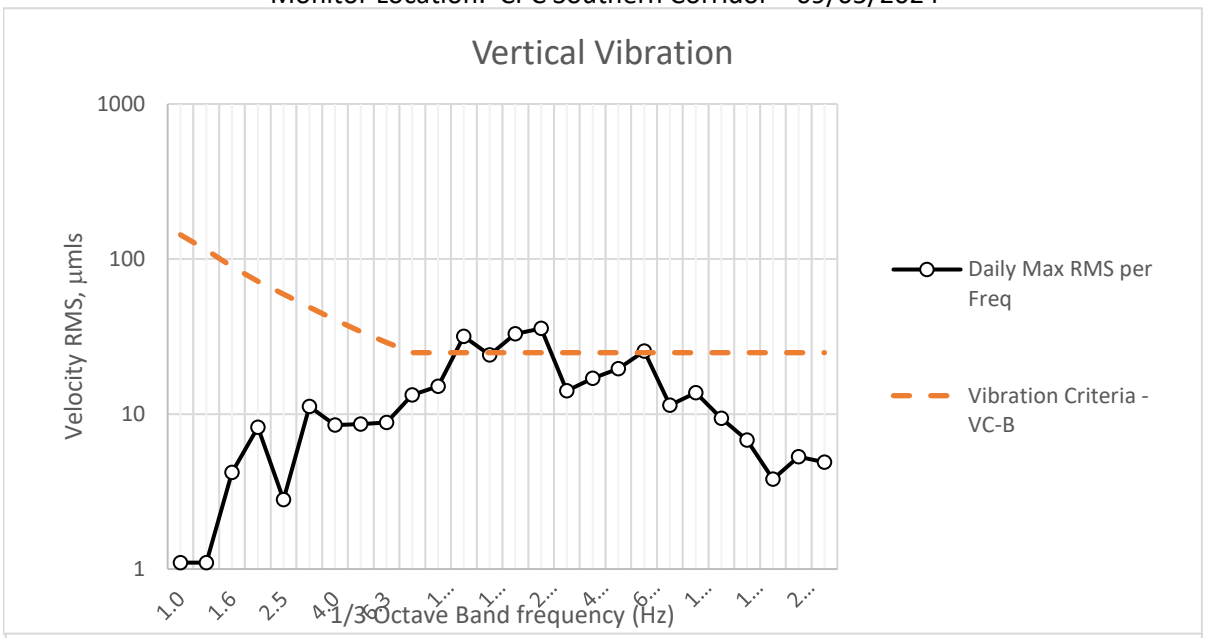
Monitor Location: CPC Southern Corridor 08/05/2024

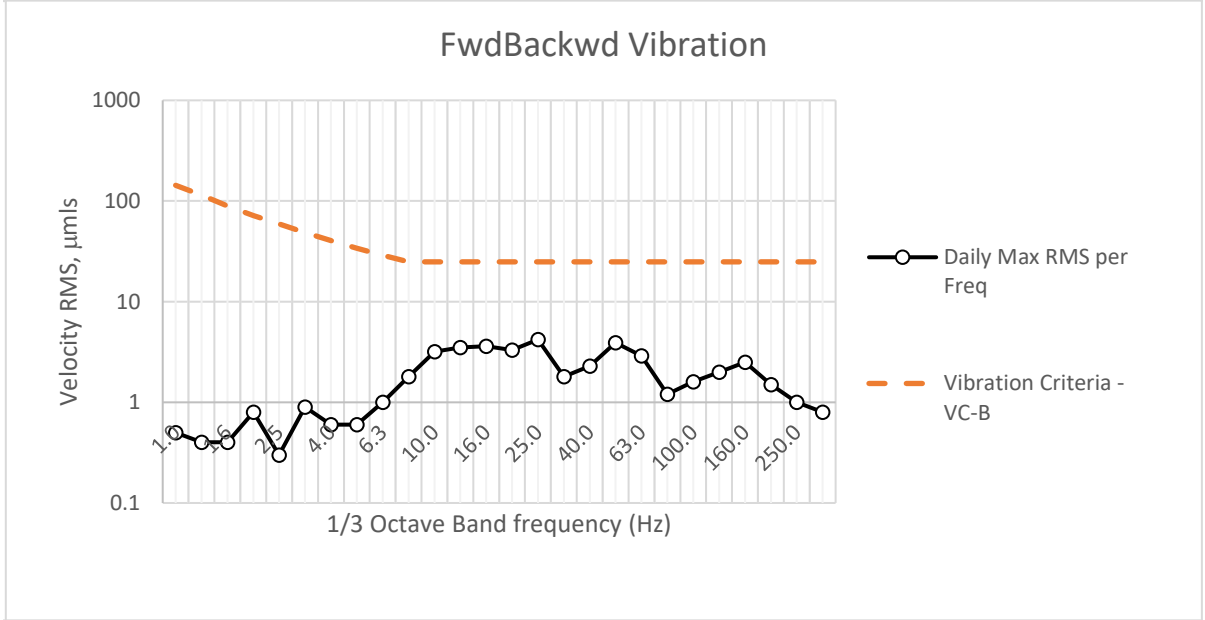


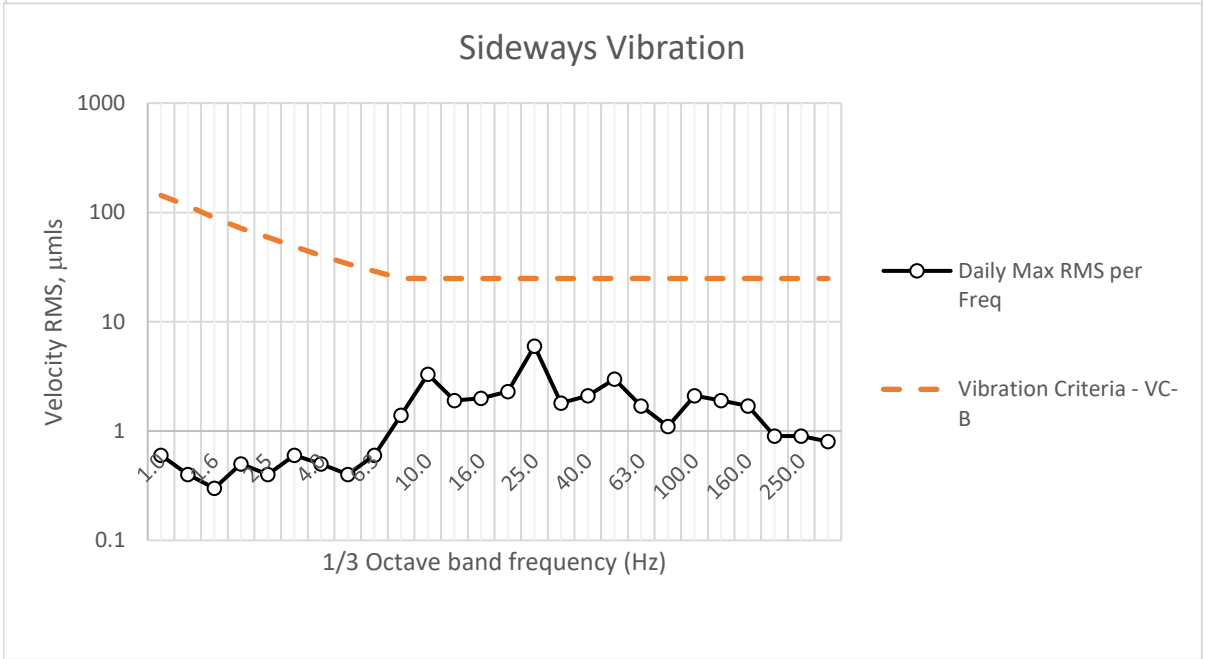




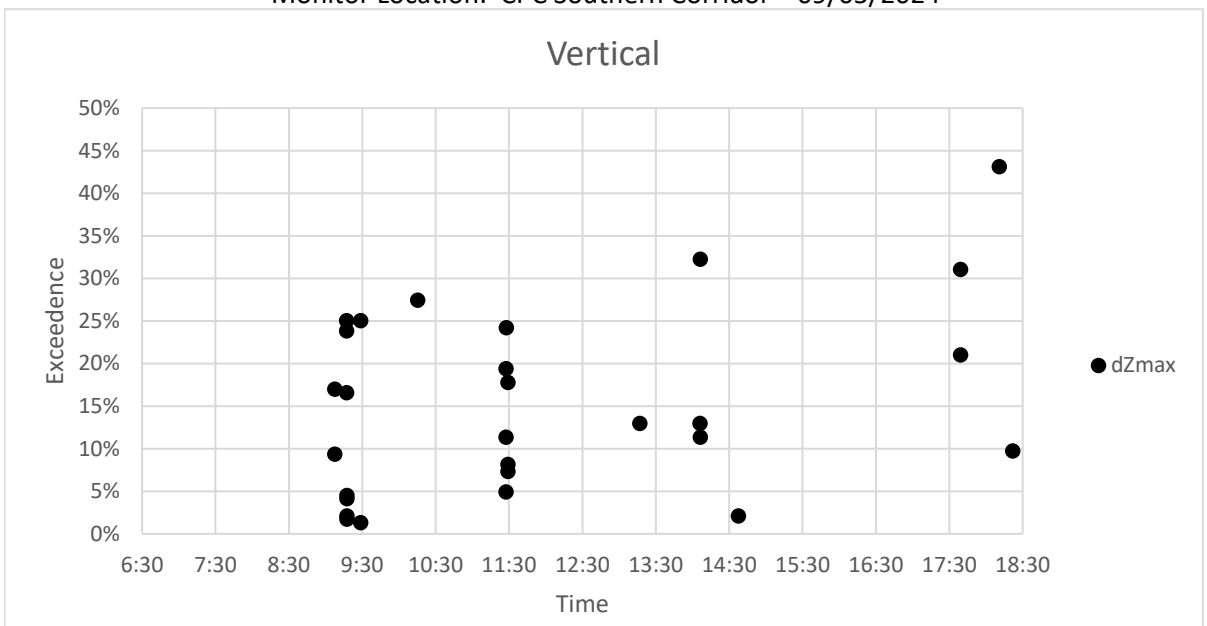
Monitor Location: CPC Southern Corridor 09/05/2024

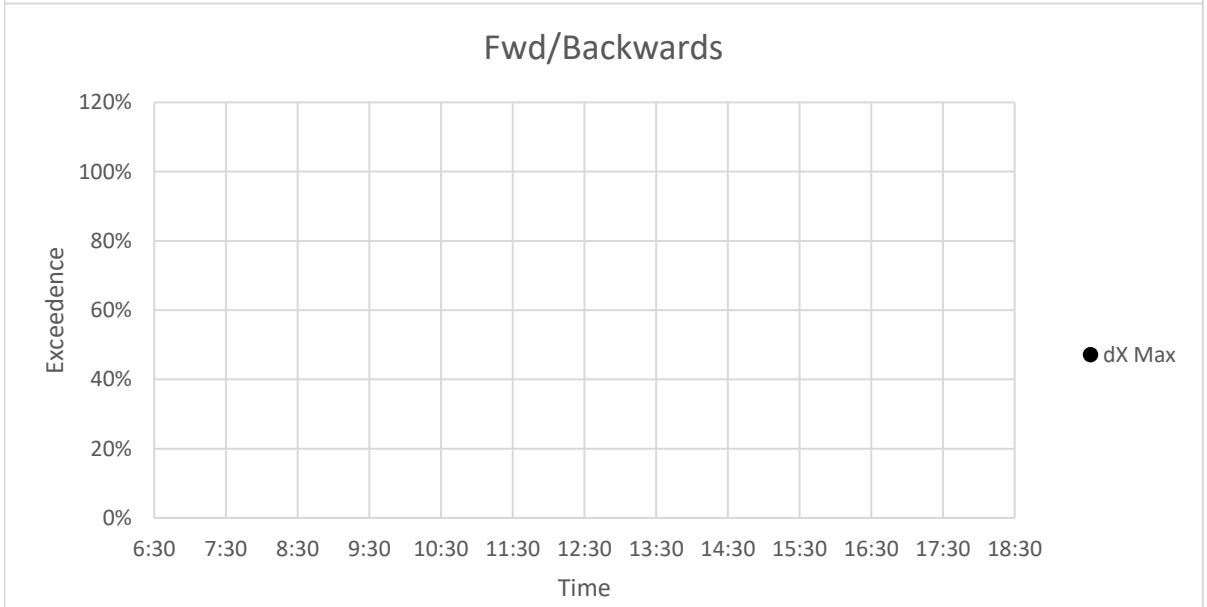


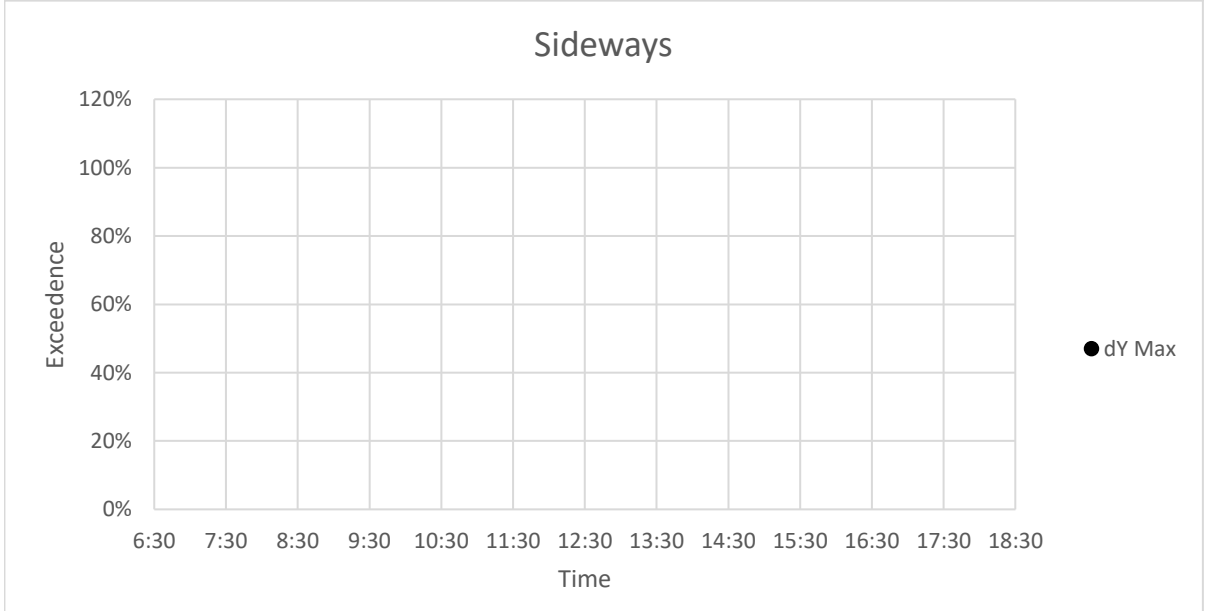




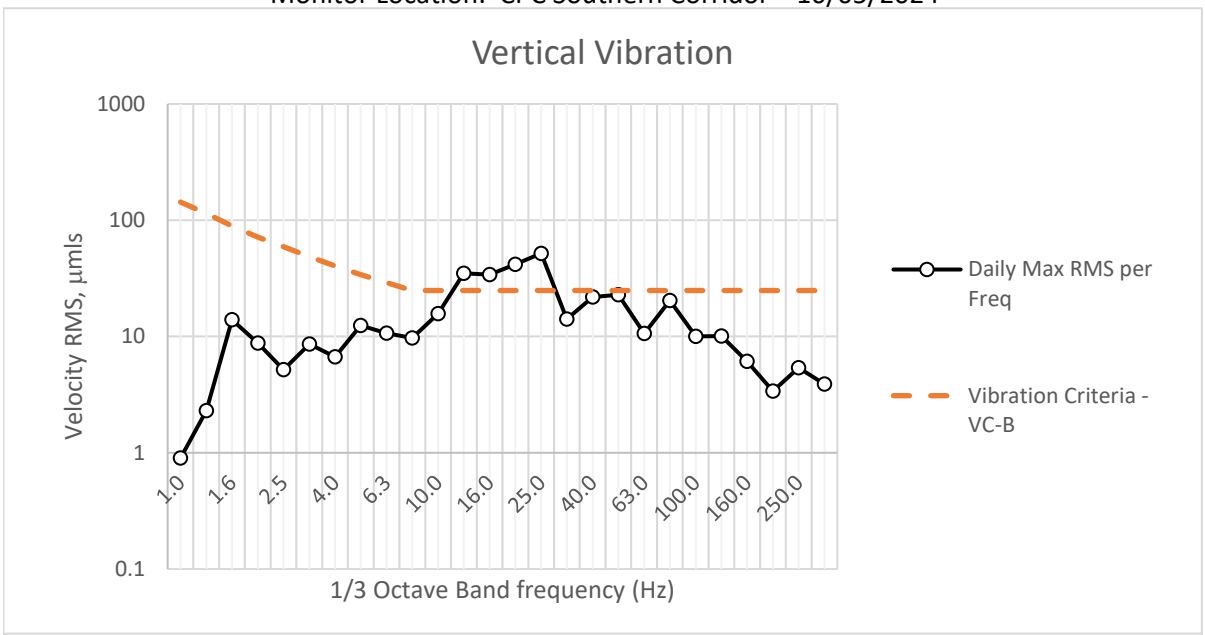
Monitor Location: CPC Southern Corridor 09/05/2024

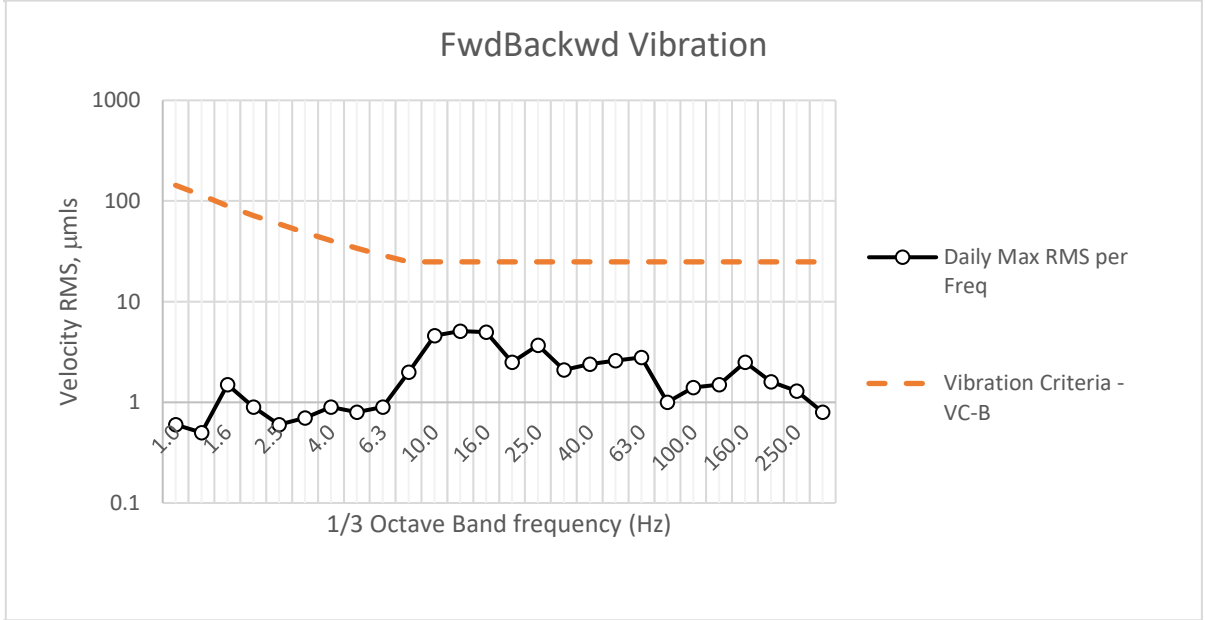


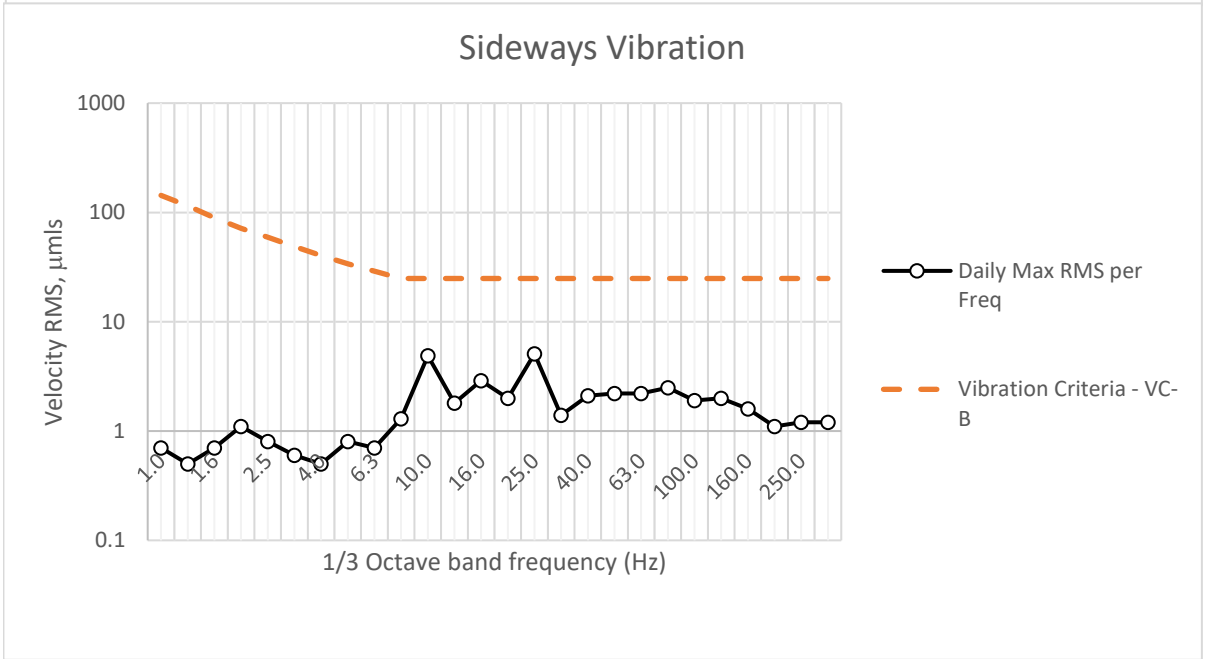




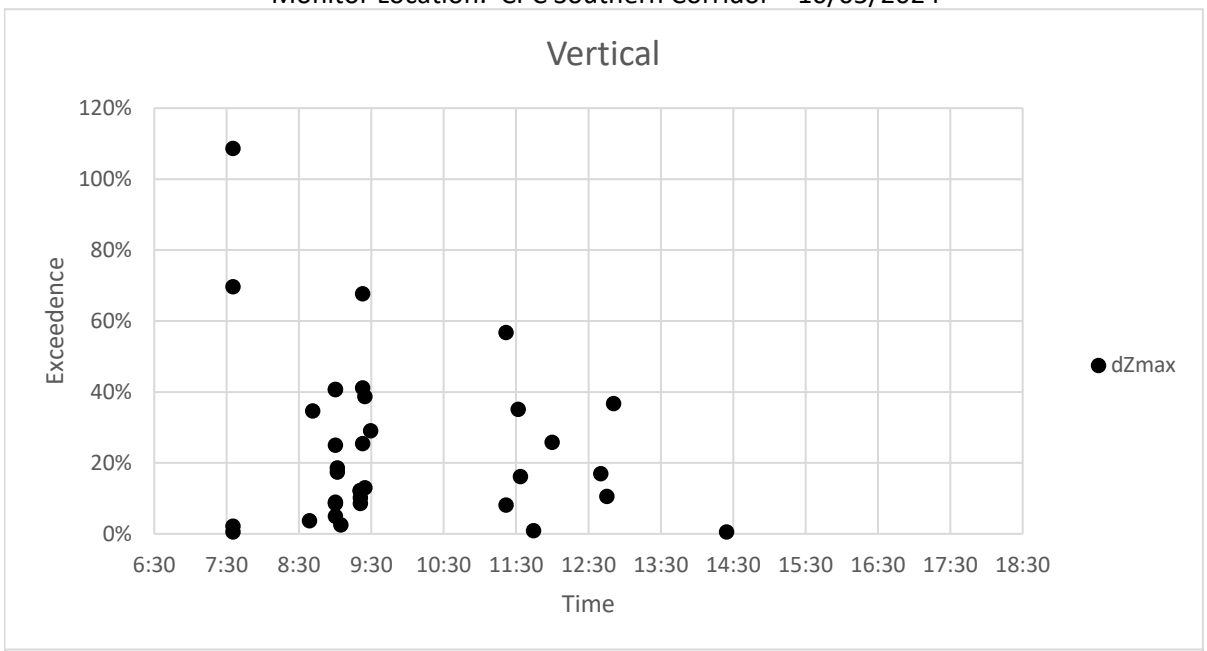
Monitor Location: CPC Southern Corridor 10/05/2024

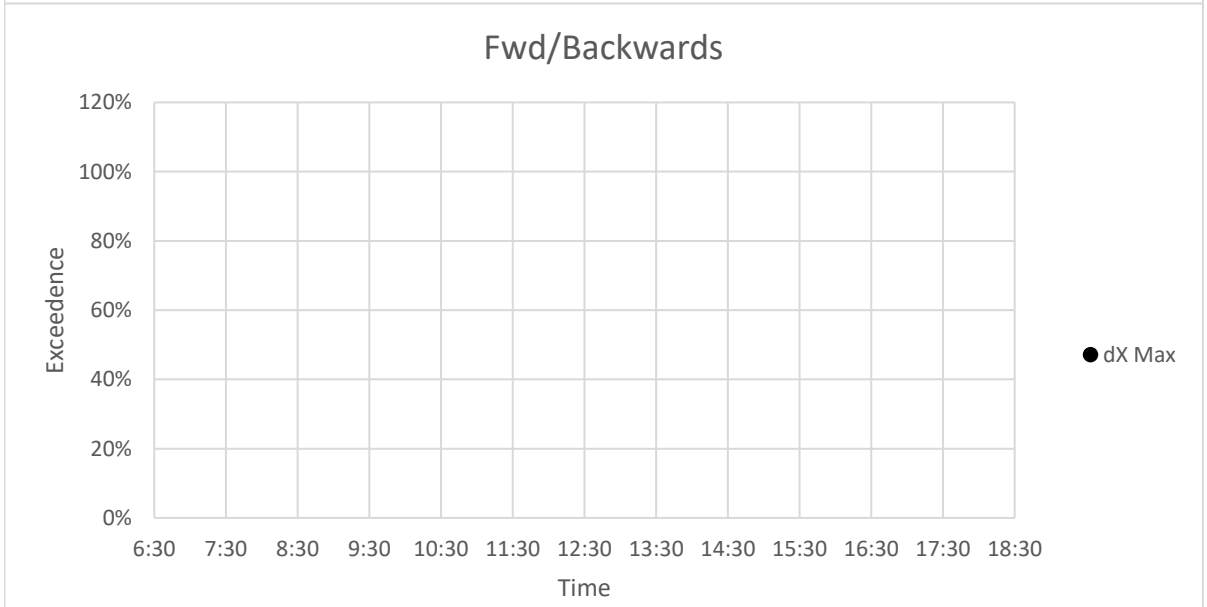


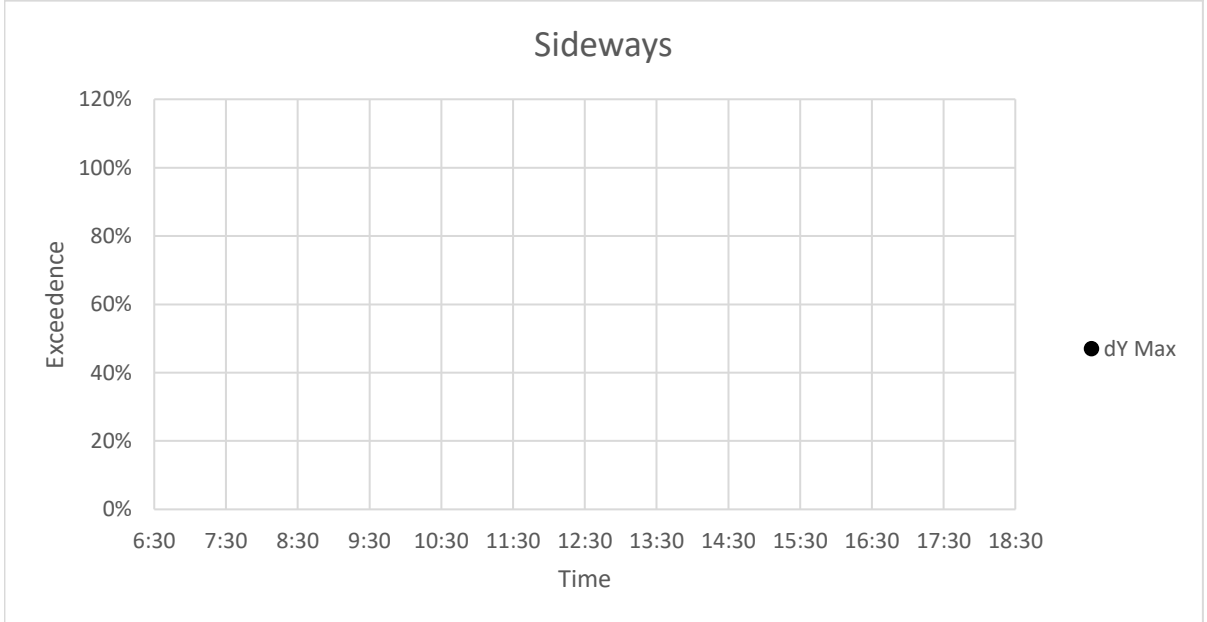




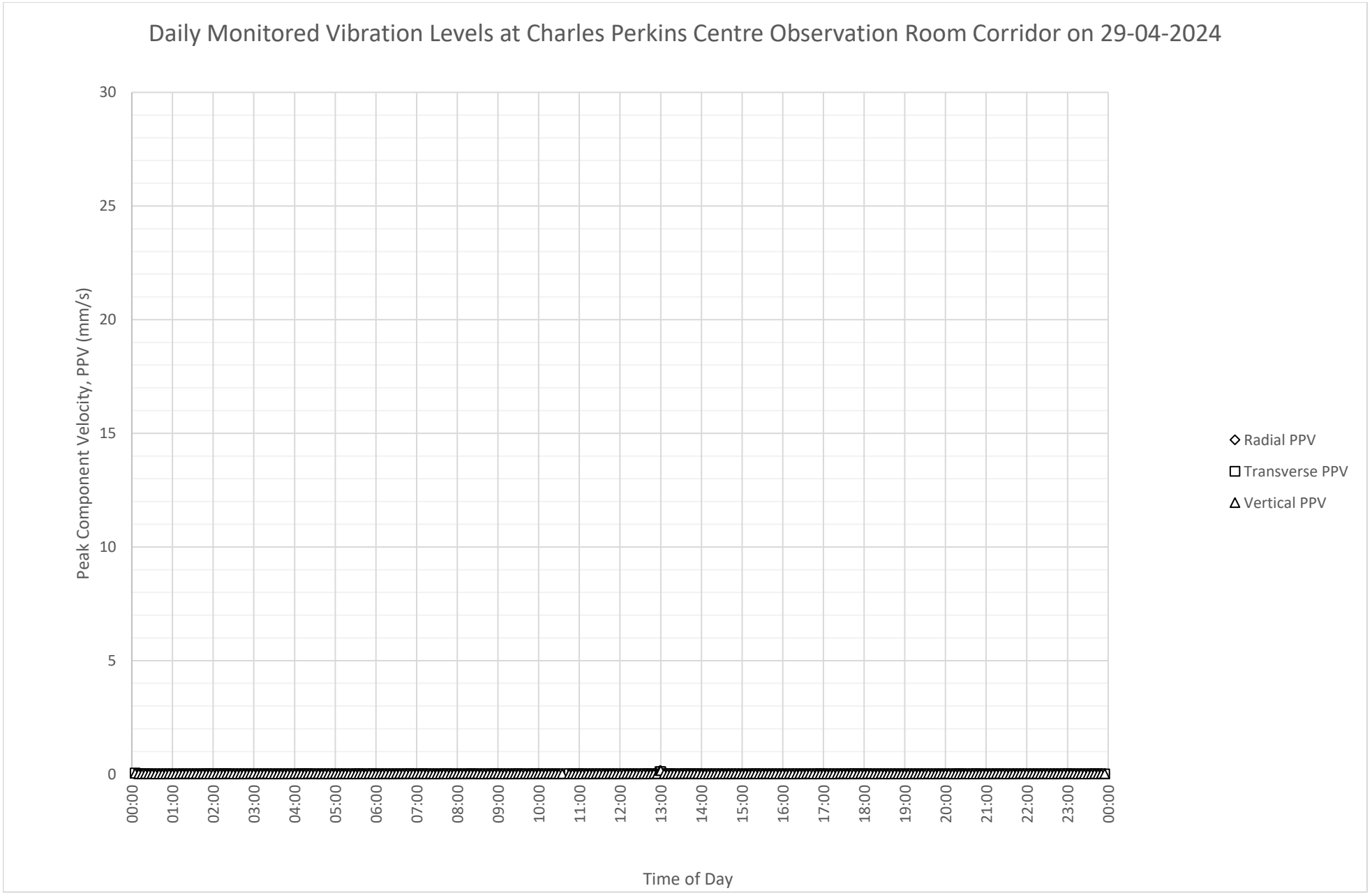
Monitor Location: CPC Southern Corridor 10/05/2024

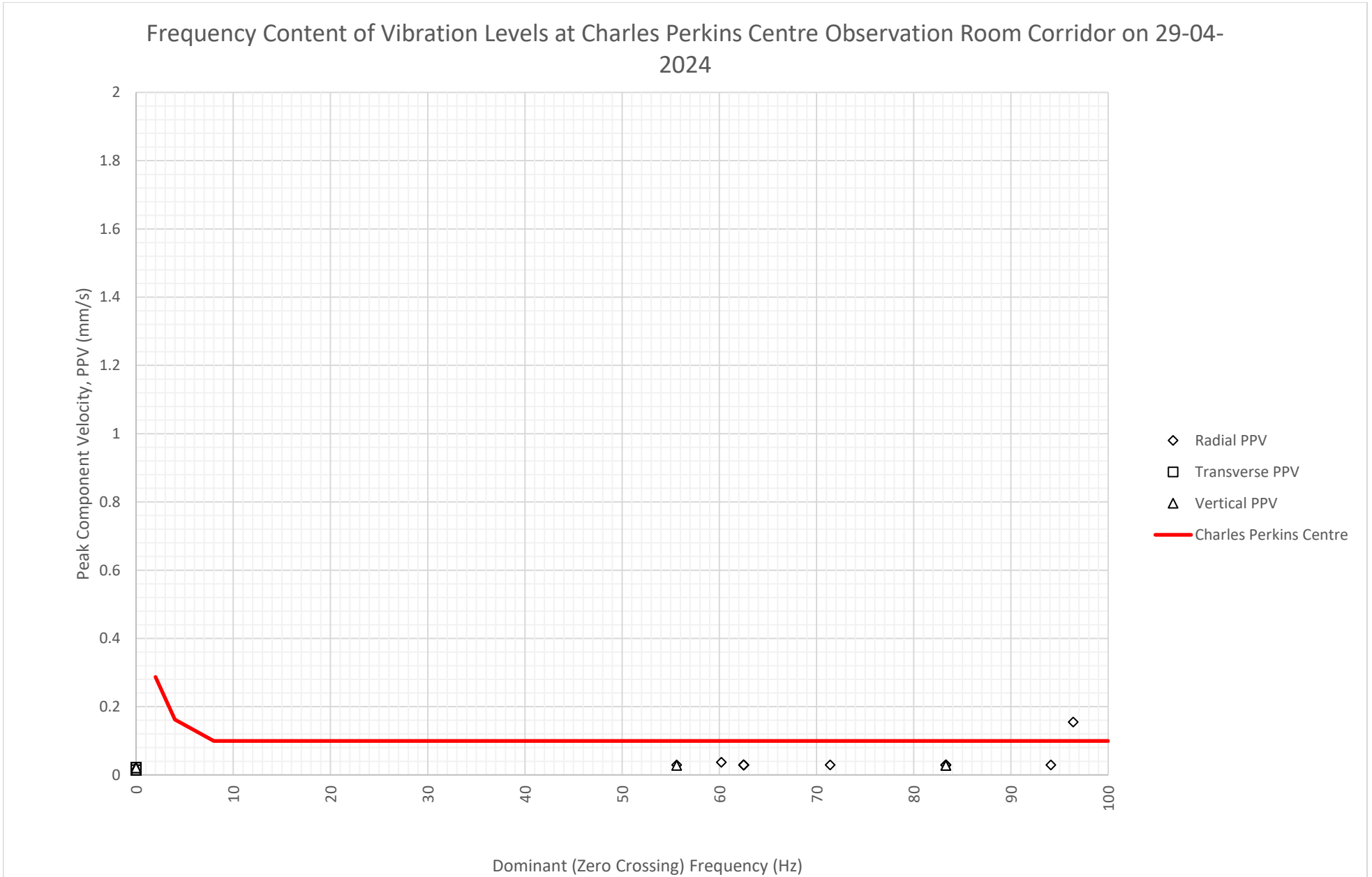


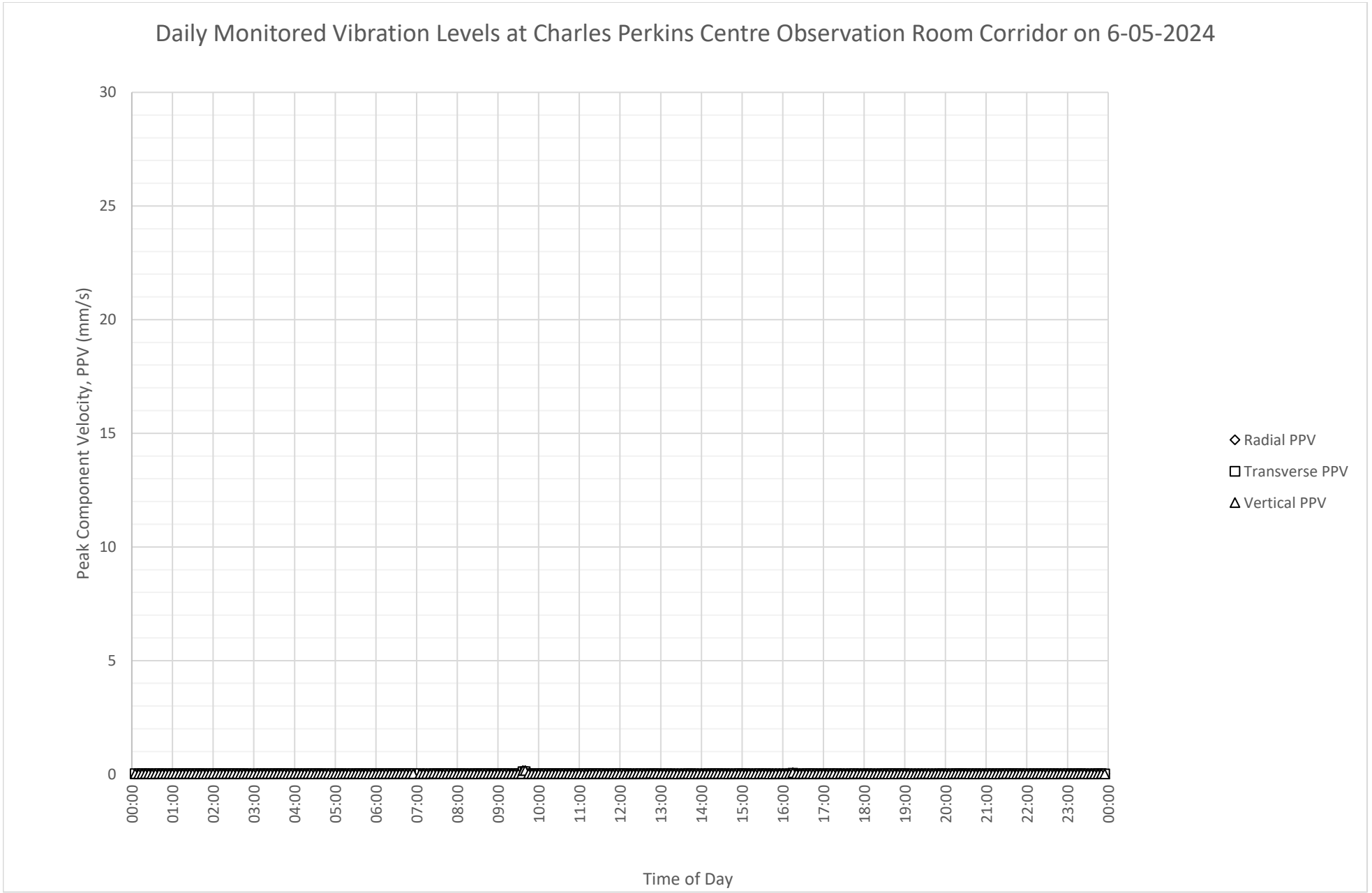


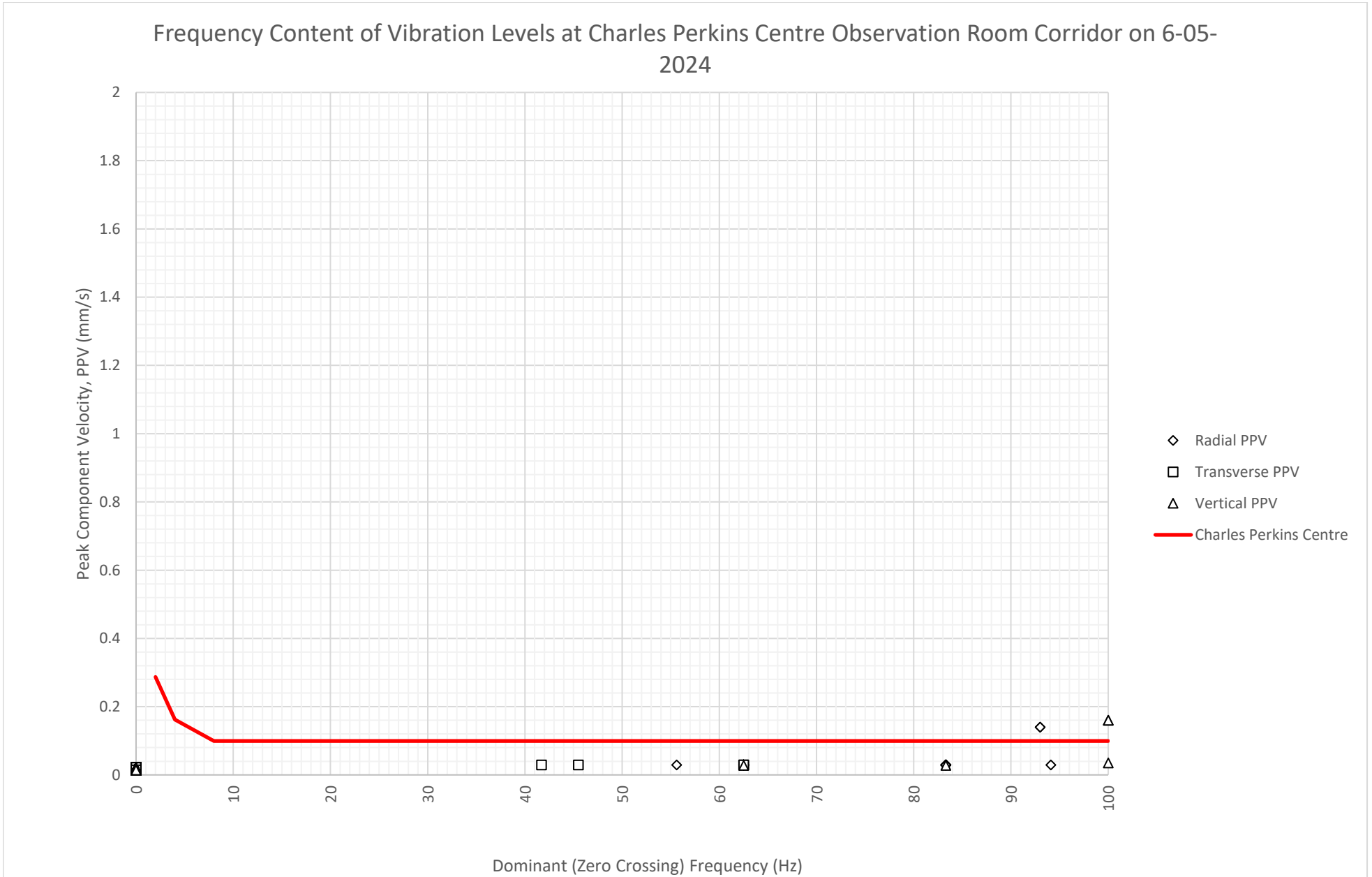


CHARLES PERKINS CENTRE – LEVEL B1 SOUTHERN WING OBSERVATION ROOM E


Daily Monitored Vibration Levels at Charles Perkins Centre Observation Room Corridor on 29-04-2024
Peak Component Velocity, PPV (mm/s)
30
25
20
15
10
5
0
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Time of Day
Radial PPV
Transverse PPV
Vertical PPV


Frequency Content of Vibration Levels at Charles Perkins Centre Observation Room Corridor on 29-04-2024
Peak Component Velocity, PPV (mm/s)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
Dominant (Zero Crossing) Frequency (Hz)
Radial PPV
Transverse PPV
Vertical PPV
Charles Perkins Centre


Daily Monitored Vibration Levels at Charles Perkins Centre Observation Room Corridor on 6-05-2024
Peak Component Velocity, PPV (mm/s)
30
25
20
15
10
5
0
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Time of Day
Radial PPV
Transverse PPV
Vertical PPV


Frequency Content of Vibration Levels at Charles Perkins Centre Observation Room Corridor on 6-05-2024
Peak Component Velocity, PPV (mm/s)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
10
20
30
40
50
60
70
80
90
100
Dominant (Zero Crossing) Frequency (Hz)
Radial PPV
Transverse PPV
Vertical PPV
Charles Perkins Centre

RPA HOSPITAL MAIN BUILDING – LEVEL 03 NICU

No exceedances occurred during the monitoring period.

OUTSIDE SUSAN WAKIL HEALTH BUILDING

No exceedances occurred during the monitoring period.