



Monitoring Report

WMATA Bus Garage Monthly Report

July 2023

Noise Exceedances:

There continues to be numerous noise level exceedances at all hours of the day and all days of the week. Mic1 recorded the highest noise levels of any location which were highest after working hours and on weekends. In addition, Mic1 and Mic2 were similar to one another with 37% of the exceedances coming outside of working hours. Mic3 had 22% of its exceedances outside of working hours. Mic4 recorded 77% of its exceedances during nights and weekends. Mic5 had 53% of its exceedances outside of working hours.

Vibration Exceedances:

During the monitoring period there was one vibration exceedance event. Please see the date, time, and magnitude outlined below. Note the VM1 and VM 2 are set to flag an exceedance at a value on 0.2 inch per second (IPS) to alert for potential damage at the historic façade. This value is 1/10 of the value recognized for potential damage to sheetrock/plaster for adjacent properties and all exceedance readings are significantly below the 2 IPS threshold.

VM Sensor 1

VM1 – 7/28 2005h. 0.59 in/sec on the Transverse channel. Appears to be electrical not physical vibration.

The 0.59 in/sec event does not appear to be caused by physical vibration, but rather electrical noise. While not an exceedance, VM4 and VM5 also recorded measurements of 0.1 and 0.32 in/sec at the same time as the 7/28 2005h recording at VM1. These also appear to be electrical in nature. The single event that triggered all three units may have been a lightning strike or other electrical anomaly at the site. VM2 had the appearance of vibration exceedances in the first half of the month. Upon further review during the compiling of this report it was discovered that the VM2 geophone was malfunctioning at the time. The unit was exchanged on July 12 and the new unit is operating normally.

Air Quality/Dust Monitoring Exceedances:

There were 5 events during the July monitoring period. Please see the date, time, and magnitude outlined below.

DM Sensor 1

DM1 – 7/4 2036h, 43 $\mu\text{g}/\text{m}^3$.

DM1 – 7/17 1432h. 57 $\mu\text{g}/\text{m}^3$.

DM Sensor 2

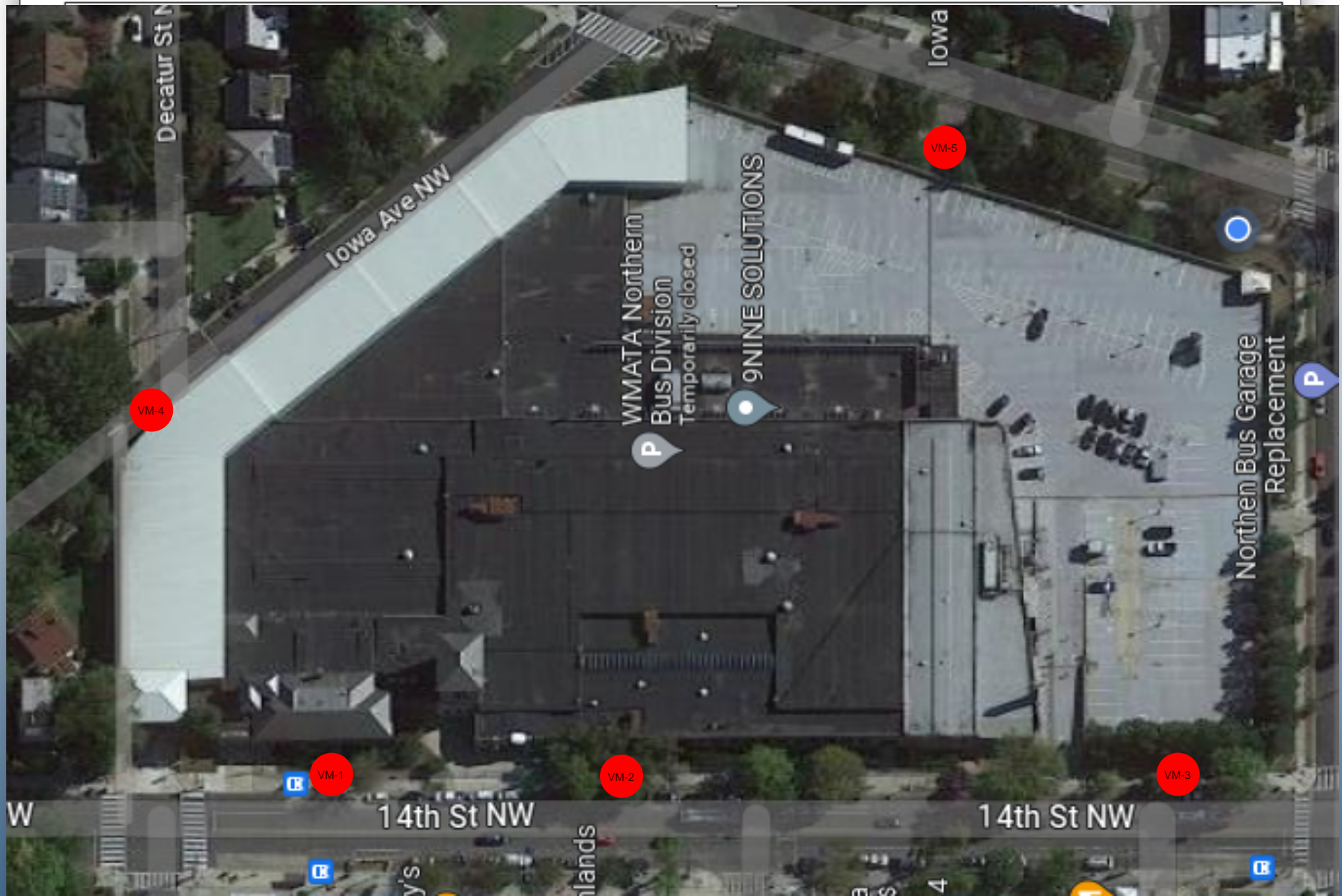
DM2 – 7/17 1116-1930h, 48 $\mu\text{g}/\text{m}^3$.

DM Sensor 3

DM3 – 7/4 2126h, 130 $\mu\text{g}/\text{m}^3$.

DM3 – 7/5 0026h, 250 $\mu\text{g}/\text{m}^3$.

A review of the data reveals threshold exceedances from regional poor air quality events on July 4th and 17th as found on www.CleanAirPartners.net. DM2 experienced power failure during most of the July 21 through 31 period. DM3 also experienced power failure from July 14 through 19 and from July 20 through 22. These units require a lot of power and DM3 has now been moved to mains power to ensure reliability. New modems are being sourced now that will allow us to measure incoming voltage and set alarms if it drops below a certain threshold.



Air Monitor



VM1-MC		
	Exceedance	Percentage
Work hours	2273	63.28%
After hours	544	15.14%
Weekends	775	21.58%
Total	3592	100%

	Work hours	After hours	Weekends
Lmax	109.6	112.7	123.5
Lmin	86.1	38.8	82.7
L10	105	105	104
L90	88	84	91
Leq	98.5	100.4	101

VM2-MC		
	Exceedance	Percentage
Work hours	1843	63.49%
After hours	484	16.67%
Weekends	576	19.84%
Total	2903	100%

	Work hours	After hours	Weekends
Lmax	111.8	111.5	112.1
Lmin	84.4	35.7	81.4
L10	105	101	104
L90	88	88	86
Leq	101.4	96.3	98.3

VM3-MC		
	Exceedance	Percentage
Work hours	2139	78.61%
After hours	216	7.94%
Weekends	366	13.45%
Total	2721	100%

	Work hours	After hours	Weekends
Lmax	111.3	109.7	108.7
Lmin	93.8	41.1	82.1
L10	108	105	103
L90	95	88	86
Leq	101.3	99.7	97.9

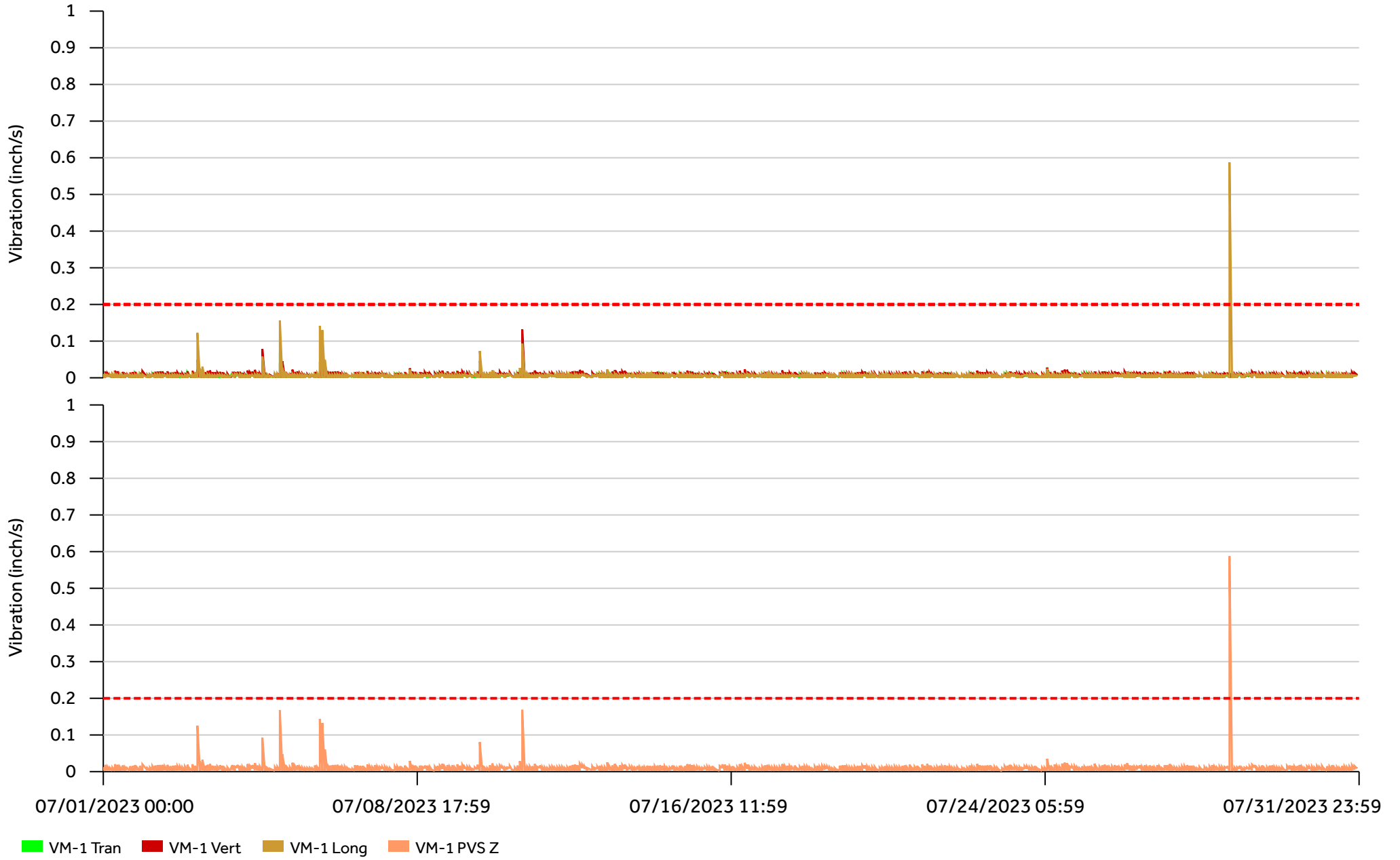
VM4-MC		
	Exceedance	Percentage
Work hours	36	23.38%
After hours	12	7.79%
Weekends	106	68.83%
Total	154	100%

	Work hours	After hours	Weekends
Lmax	101.2	93.2	114
Lmin	31.9	46	37.3
L10	95	91	99
L90	85	74	80
Leq	91.6	84.8	99.5

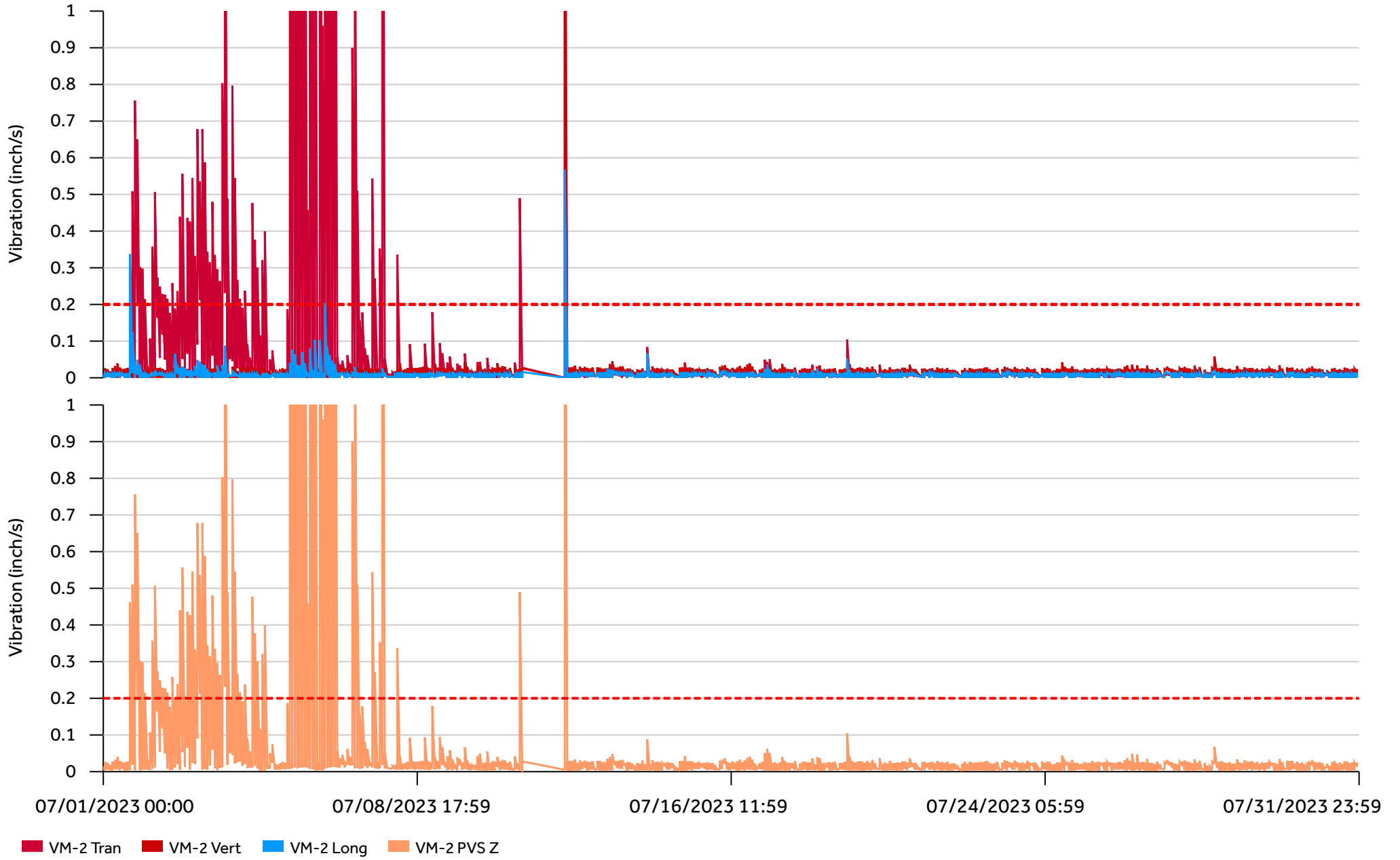
VM5-MC		
	Exceedance	Percentage
Work hours	604	48.71%
After hours	256	20.65%
Weekends	380	30.65%
Total	1240	100%

	Work hours	After hours	Weekends
Lmax	110.7	112.1	107
Lmin	83.1	39.7	80
L10	105	106	102
L90	88	86	85
Leq	100.3	101.9	96.3

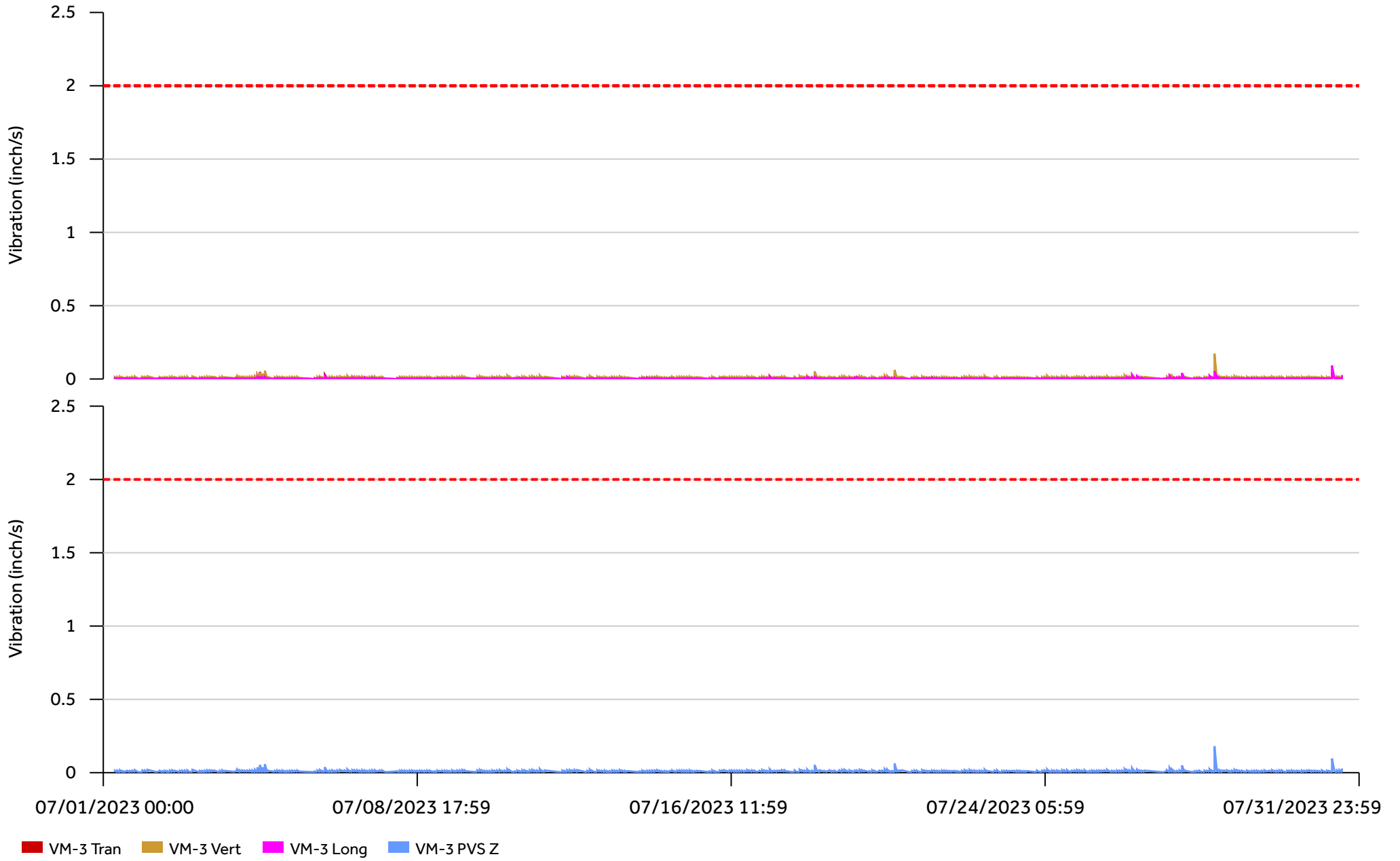
VM-1- Vibration Monitor



VM-2- Vibration Monitor



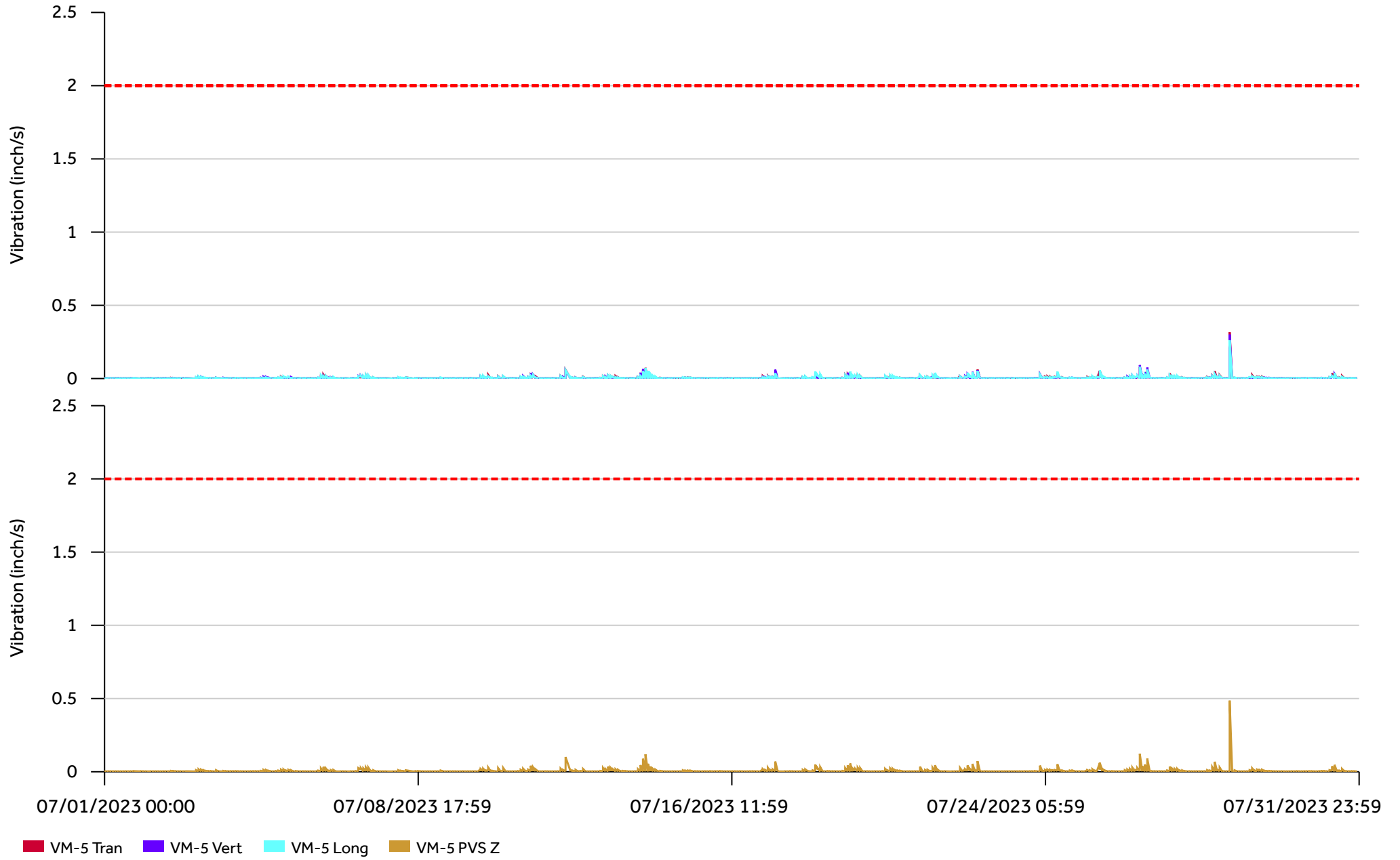
VM-3- Vibration Monitor



VM-4- Vibration Monitor



VM-5- Vibration Monitor

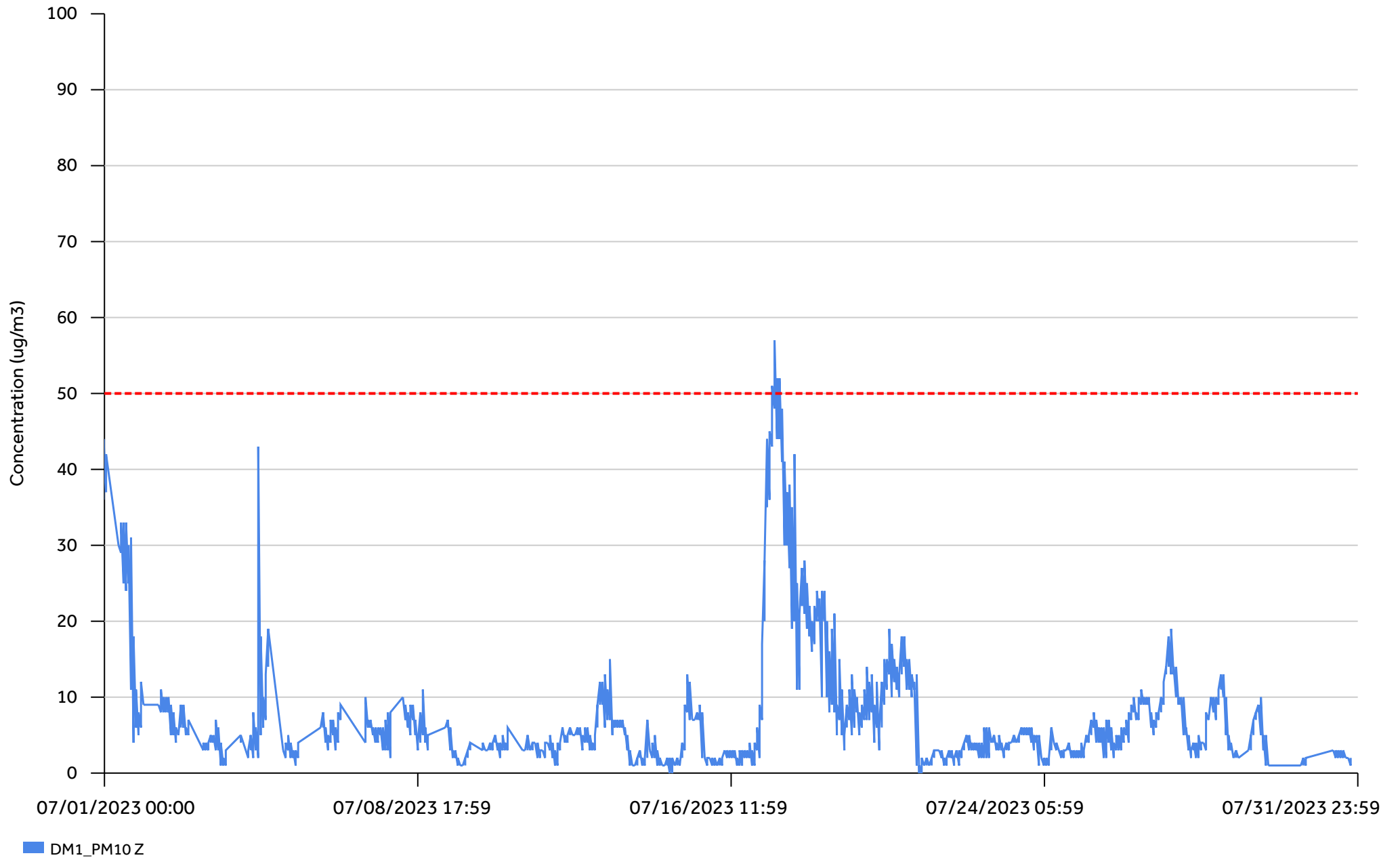


DM1-PM2.5

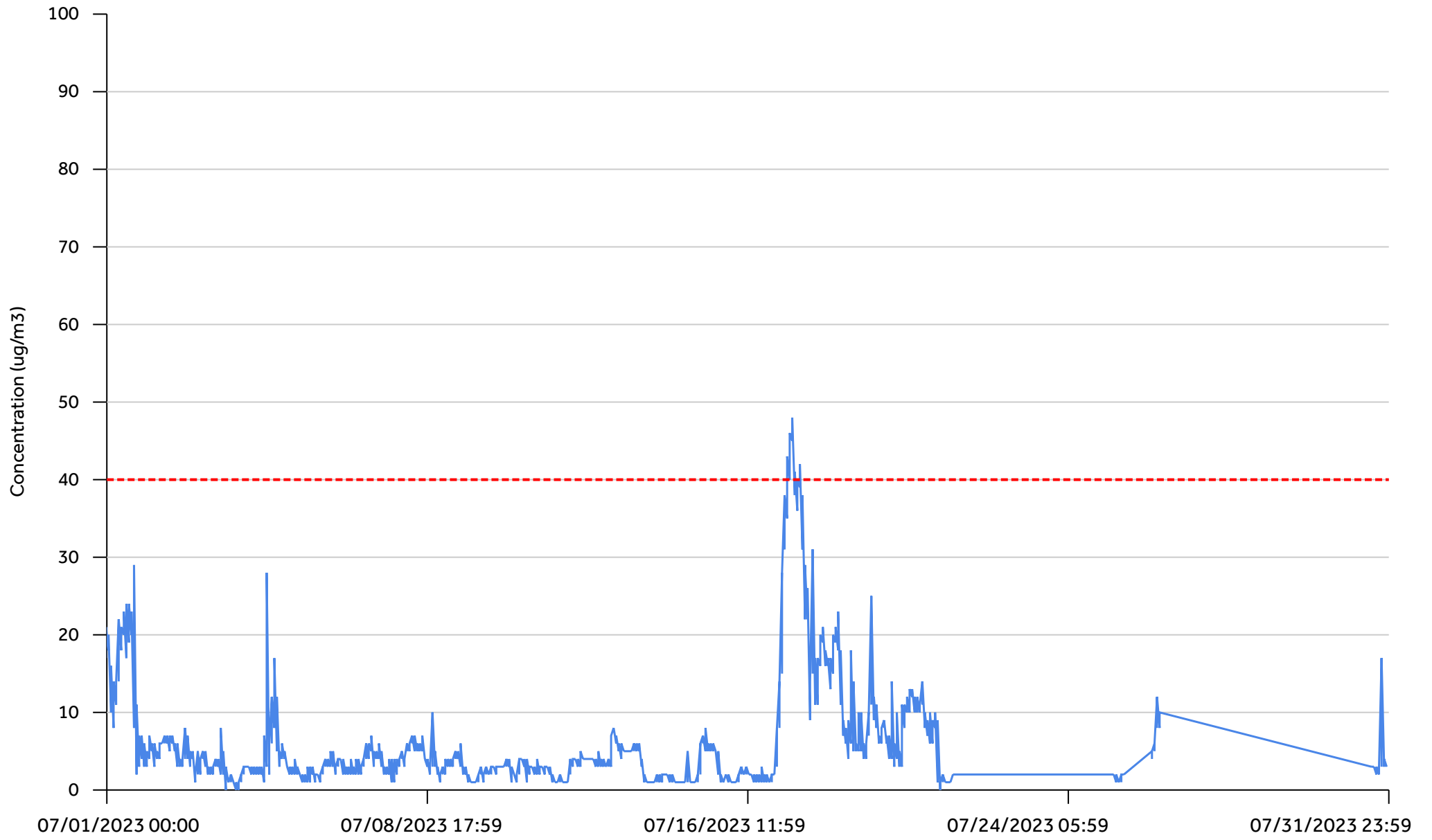


DM1_PM2.5 Z

DM1 - PM10

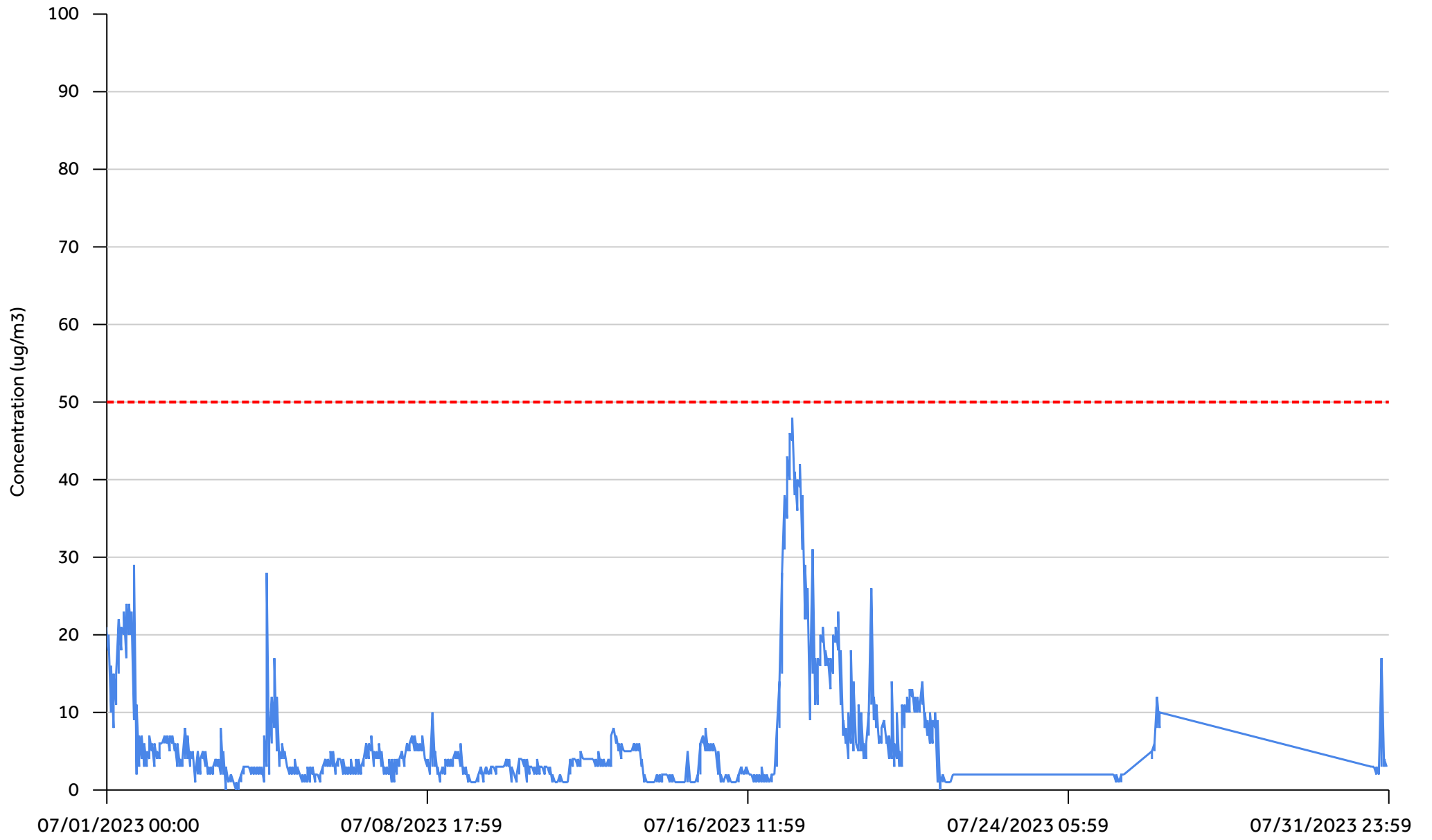


DM2-PM2.5



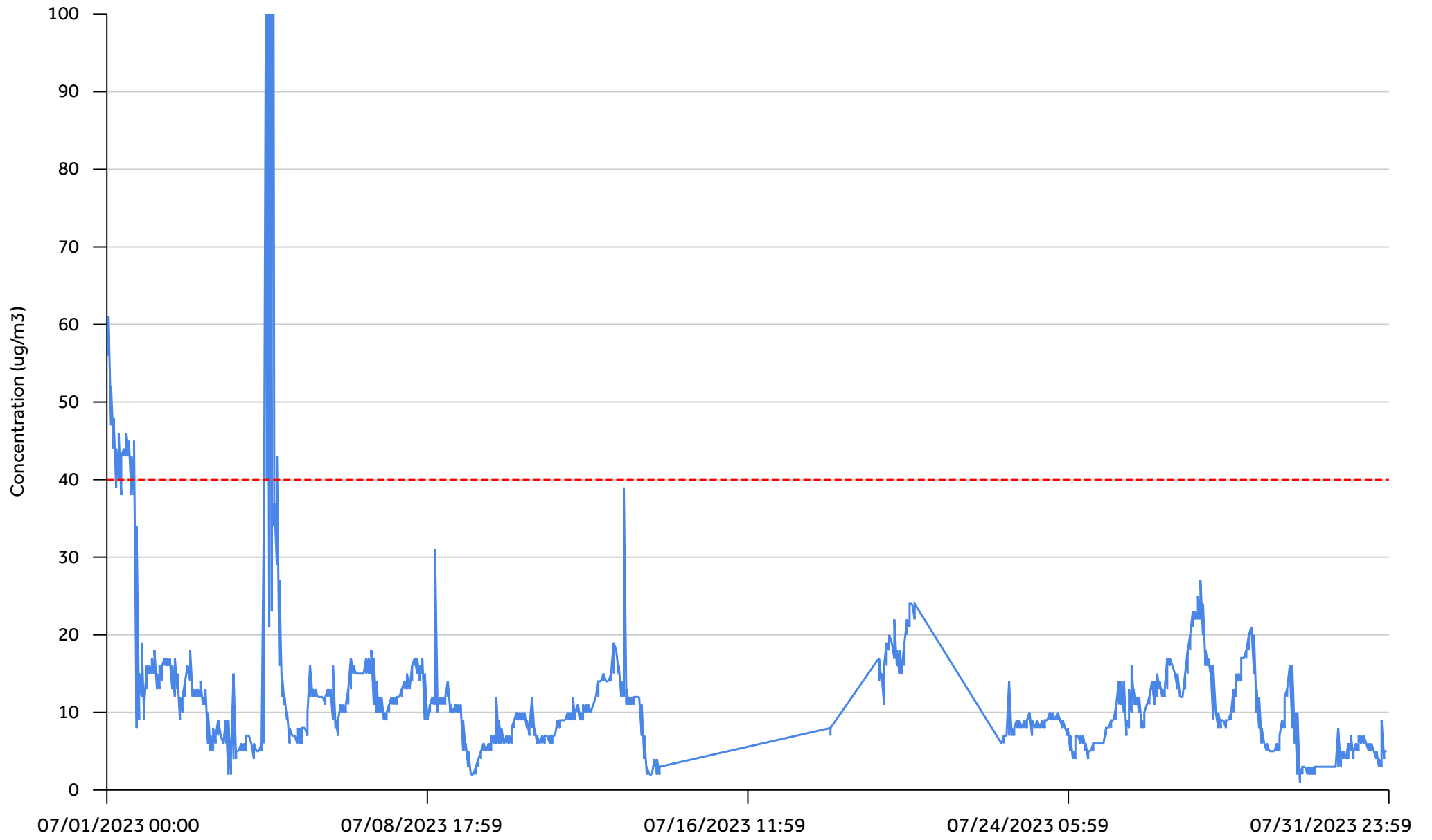
DM2_PM2.5 Z

DM2-PM10



DM2_PM10 Z

DM3-PM2.5



DM3_PM2.5 Z

DM3-PM10

