GEO INSTRUMENTS

Monitoring Report

WMATA Bus Garage Monthly Report

June 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 had 43% of its exceedances outside of working hours. Mic2 and Mic3 were similar to one another with 36% of the exceedances coming outside of working hours. Mic4 recorded only 18% of its exceedances during nights and weekends most likely due to its distance from the city streets. Mic5 had 39% of its exceedances outside of working hours.

Vibration Exceedances:

None except VM2 which had the appearance of vibration exceedances. Upon further review during the compiling of this report it was discovered that the VM2 geophone is malfunctioning and needs to be exchanged.

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.

Air Quality/Dust Monitoring Exceedances:

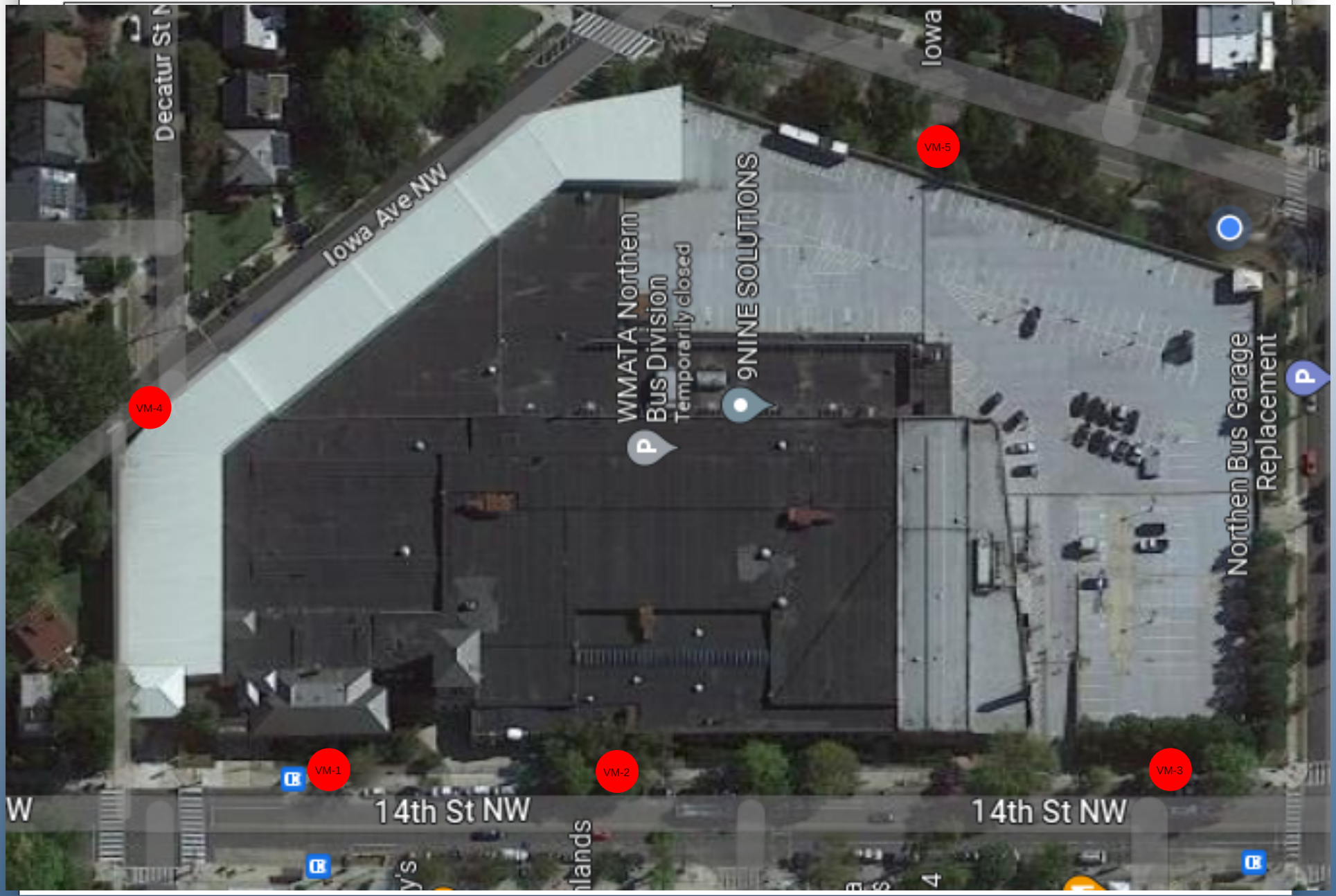
The dust monitors made similar measurements across the site. All three PM2.5 and PM10 vales of 150-300 from June 7th through 9th when the region was affected by wildfire smoke. Another exceedance on June 29 with PM10 values up to 116 correlates with a National Weather Service alert issued for that day for the DC area.

Note: DM3 experienced a power failure from June 20th through 30th. The battery was exchanged, and the solar panel angle was reset on June 30th. An offline alarm was enabled to notify power failures in the future to prevent extended periods of data loss.

Please note that construction activities are generally concluded by 16:00 every weekday.

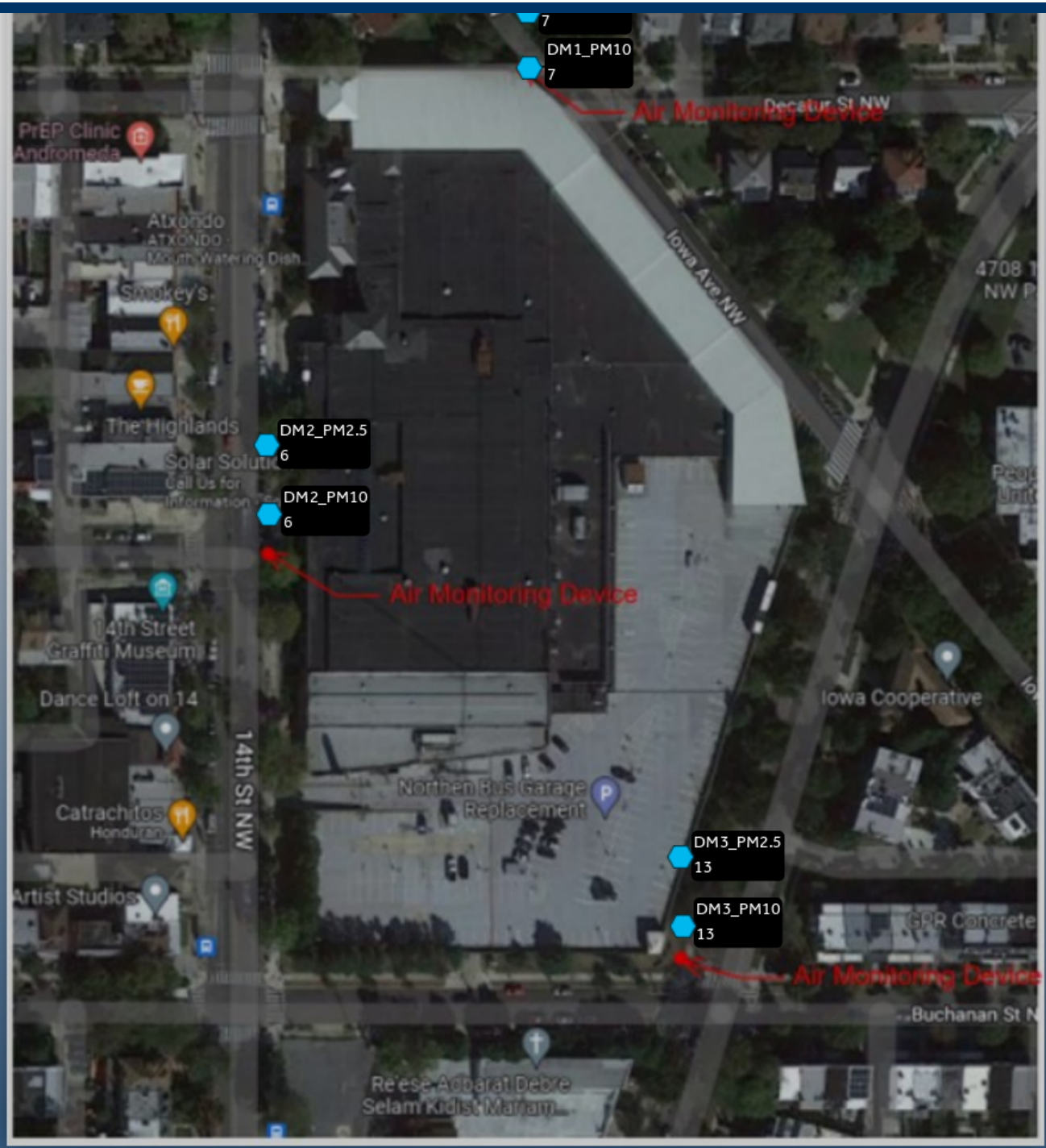
VM and Noise

16/06/2023, 13:43:04



Air Monitor

16/06/2023, 13:43:11



VM1-MC		
	Exceedance	Percentage
Work hours	1781	56.92%
After hours	737	23.55%
Weekends	611	19.53%
Total	3129	

	Work hours	After hours	Weekends
Lmax	108.8	109.1	110.3
Lmin	45.4	37.7	37.6
L10	102	105	105
L90	89	89	90
Leq	98	98.3	99.5

VM2-MC		
	Exceedance	Percentage
Work hours	1823	64.53%
After hours	561	19.86%
Weekends	441	15.61%
Total	2825	

	Work hours	After hours	Weekends
Lmax	107	109.4	104.1
Lmin	44.4	41	41.1
L10	100	107	101
L90	95	86	88
Leq	96	100	96.3

VM3-MC		
	Exceedance	Percentage
Work hours	997	63.67%
After hours	298	19.03%
Weekends	271	17.31%
Total	1566	

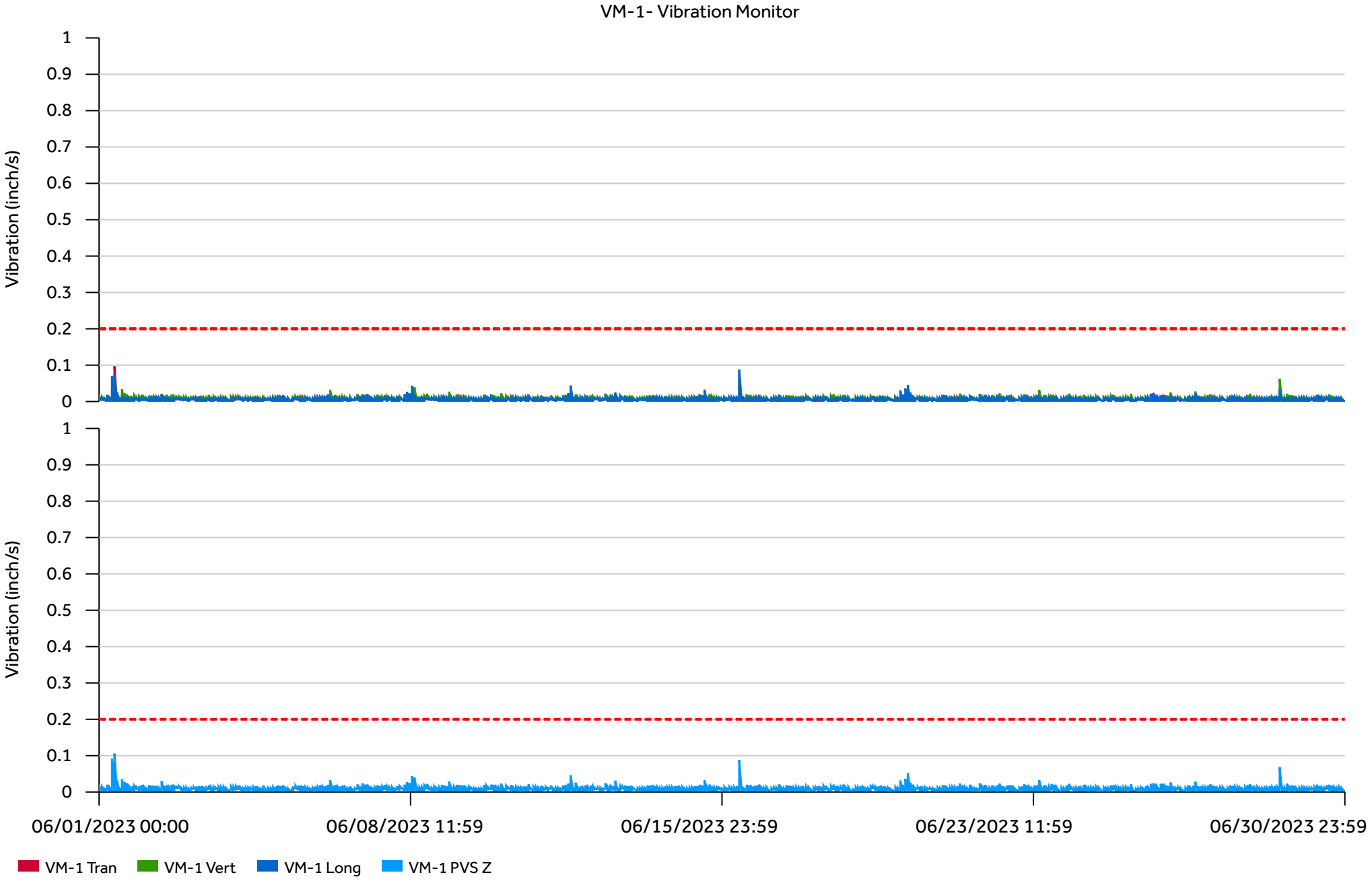
	Work hours	After hours	Weekends
Lmax	107	108.7	104.6
Lmin	47.9	41.1	41.1
L10	106	99	101
L90	87	85	84
Leq	100.4	94.5	95

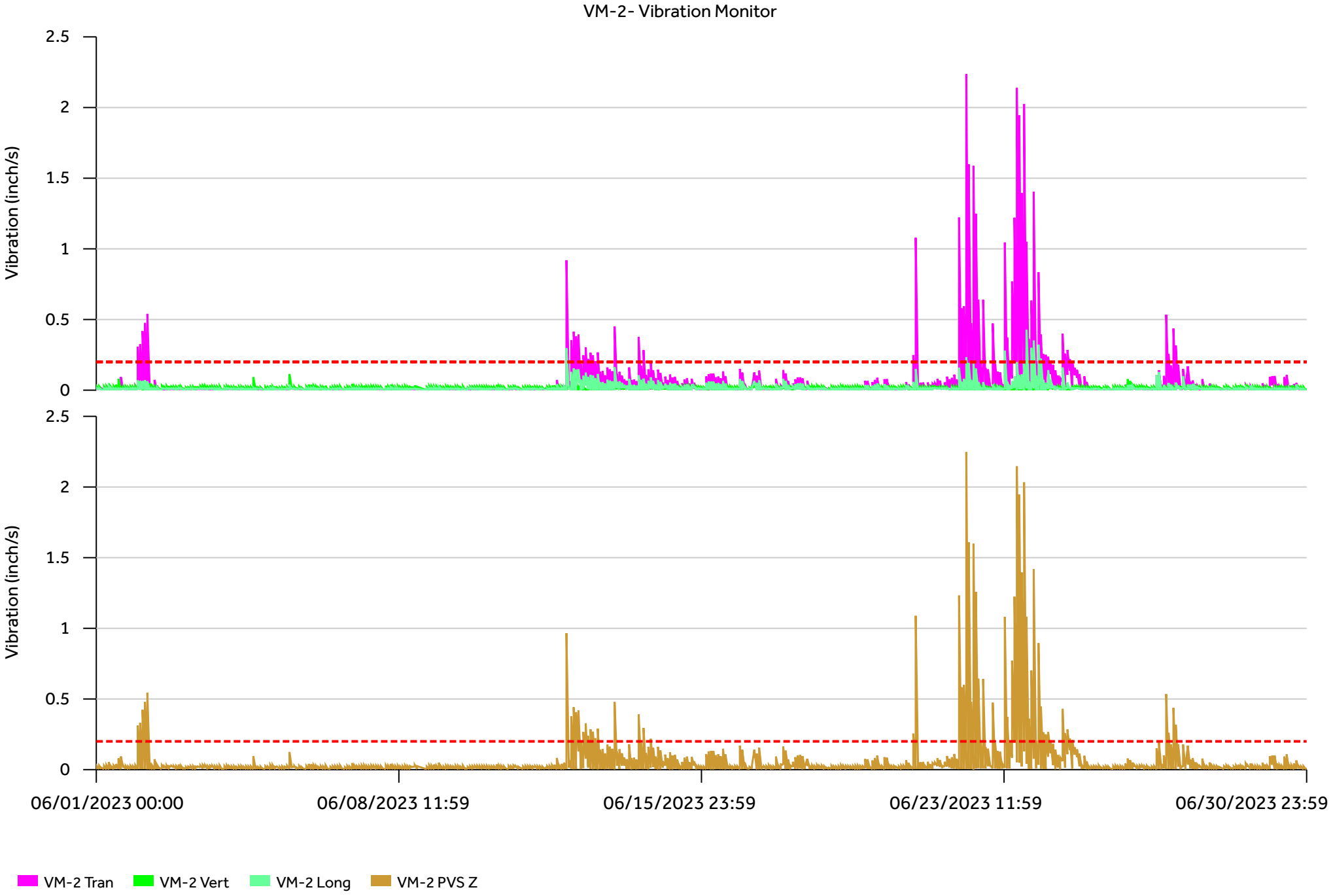
VM4-MC		
	Exceedance	Percentage
Work hours	441	82.12%
After hours	79	14.71%
Weekends	17	3.17%
Total	537	

	Work hours	After hours	Weekends
Lmax	104.7	101.9	96
Lmin	40.3	34.1	37
L10	103	95	91
L90	99	80	75
Leq	101	90.9	85.8

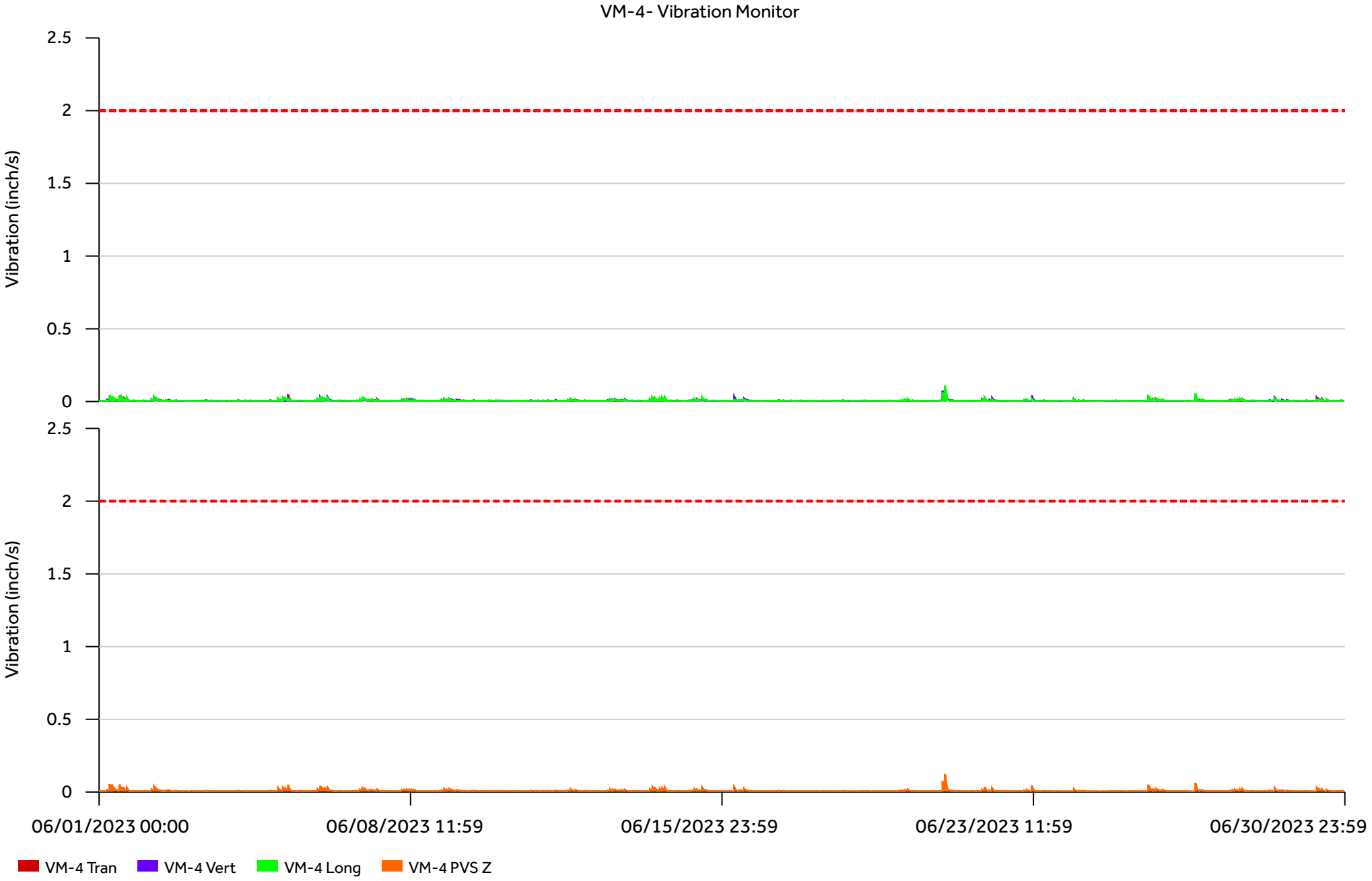
VM5-MC		
	Exceedance	Percentage
Work hours	593	61.32%
After hours	196	20.27%
Weekends	178	18.41%
Total	967	

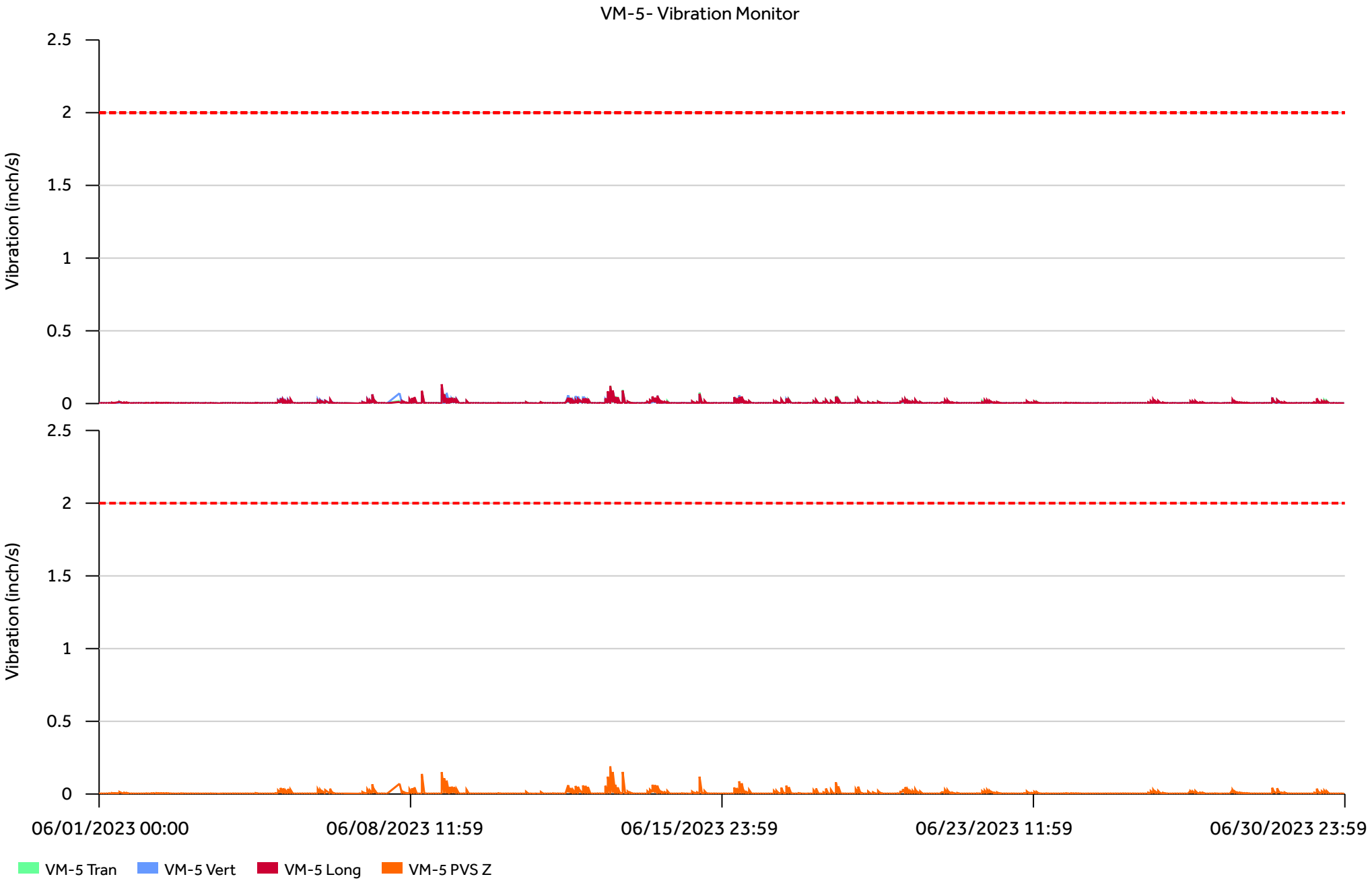
	Work hours	After hours	Weekends
Lmax	110	107.6	108.3
Lmin	36.6	37.4	37.4
L10	106	104	102
L90	86	88	84
Leq	99.2	98.7	96.7

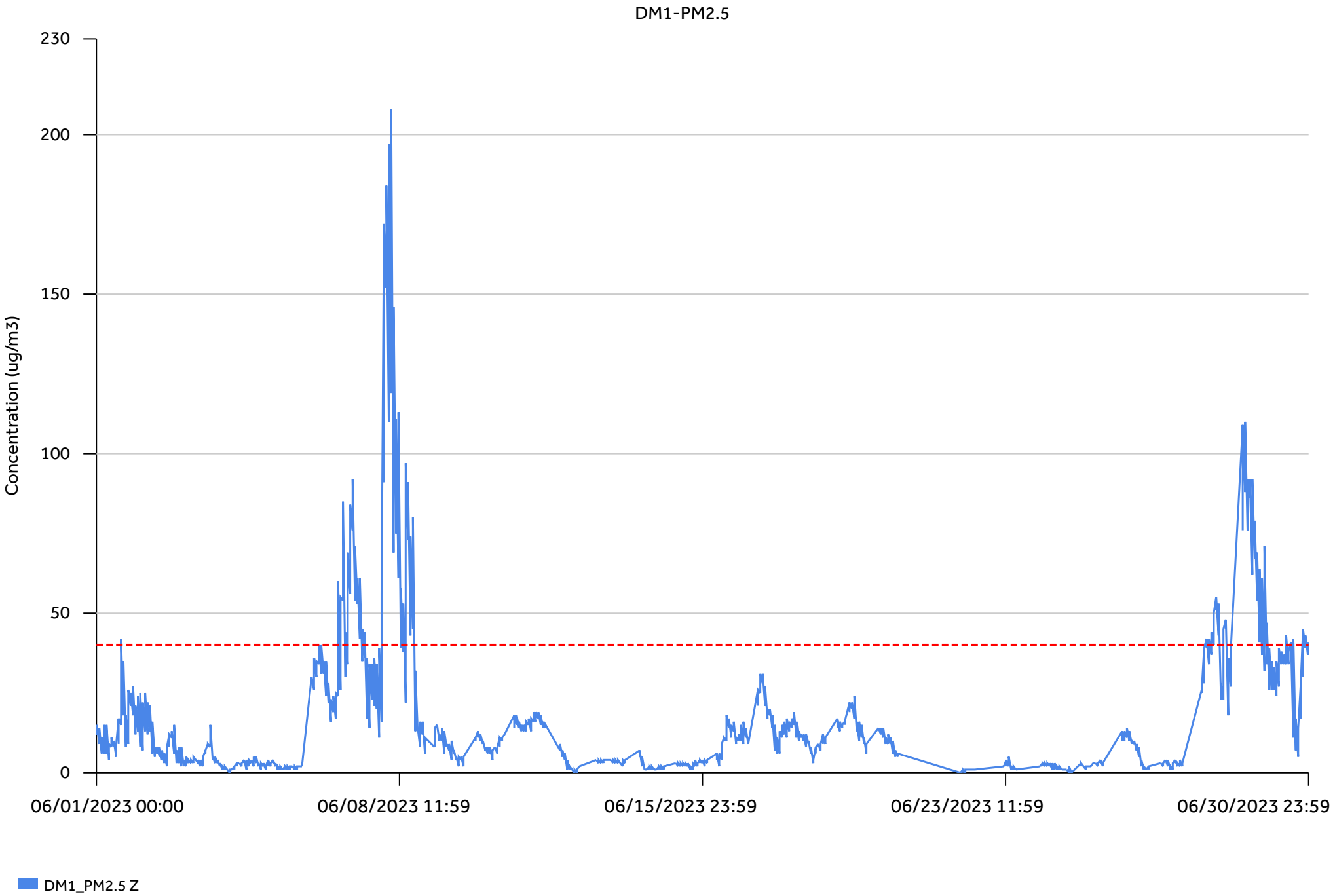

VM-1- Vibration Monitor
Vibration (inch/s)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Vibration (inch/s)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
VM-1 Tran
VM-1 Vert
VM-1 Long
VM-1 PVS Z

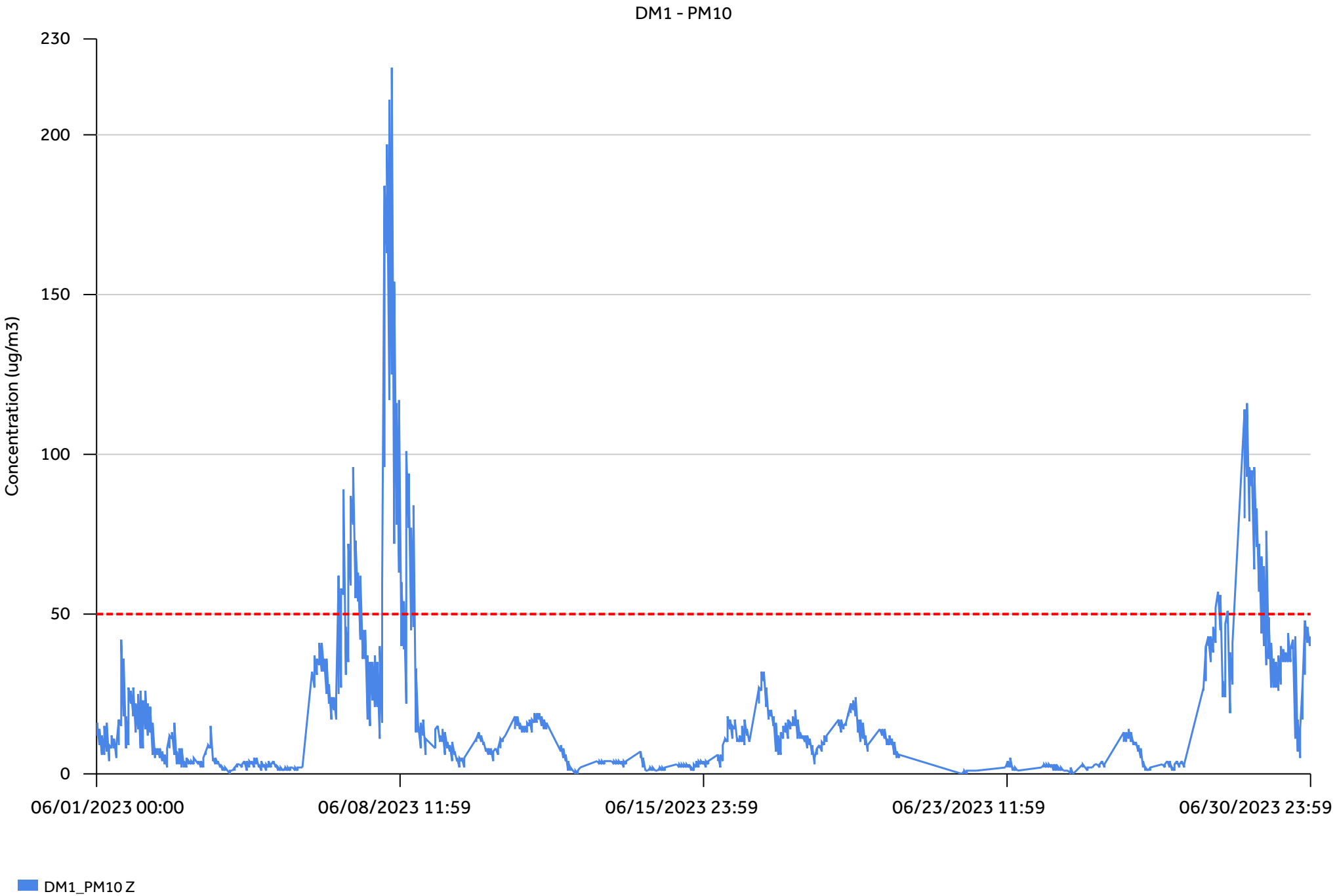

VM-2- Vibration Monitor
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
VM-2 Tran
VM-2 Vert
VM-2 Long
VM-2 PVS Z

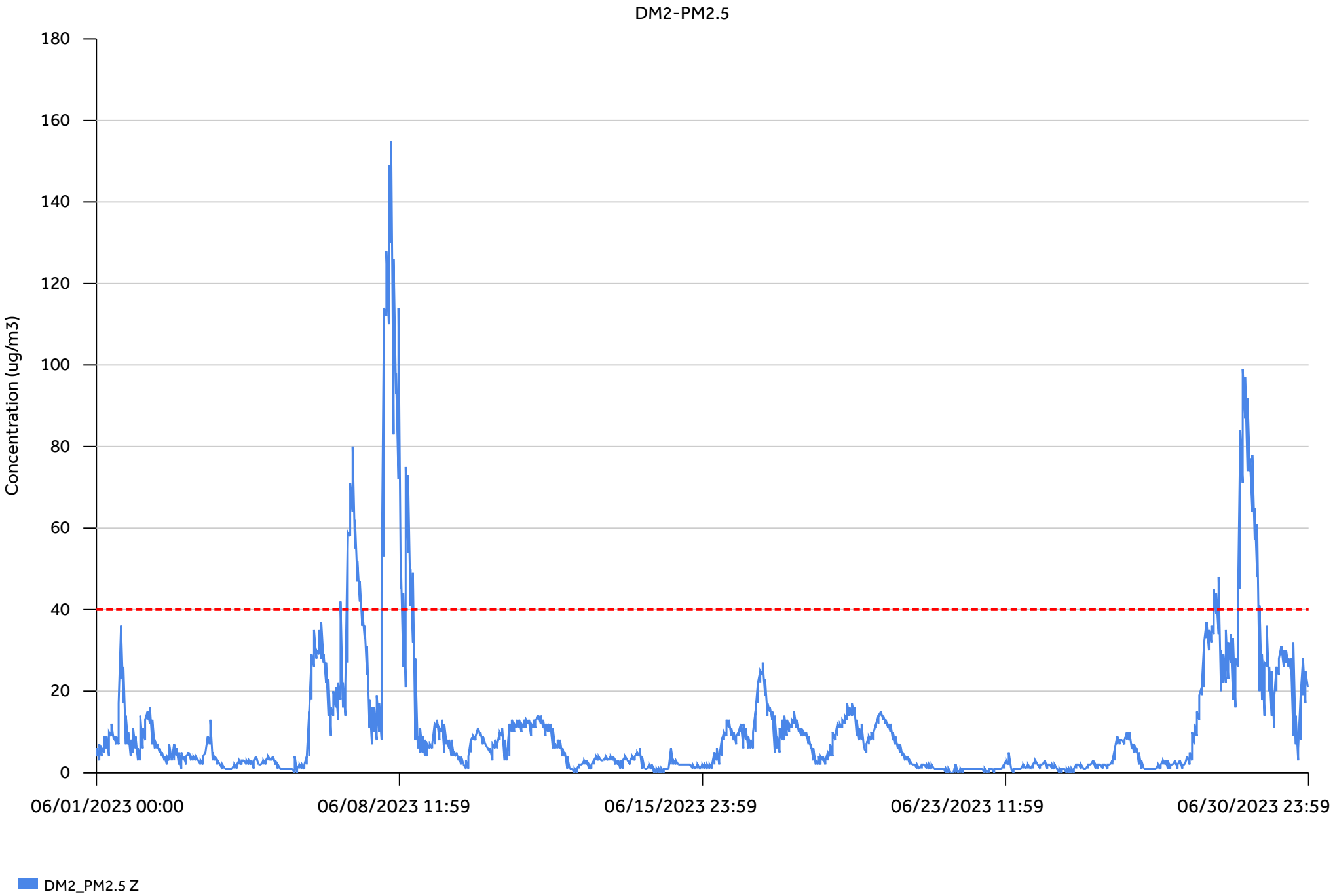

VM-3- Vibration Monitor
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
VM-3 Tran
VM-3 Vert
VM-3 Long
VM-3 PVS Z

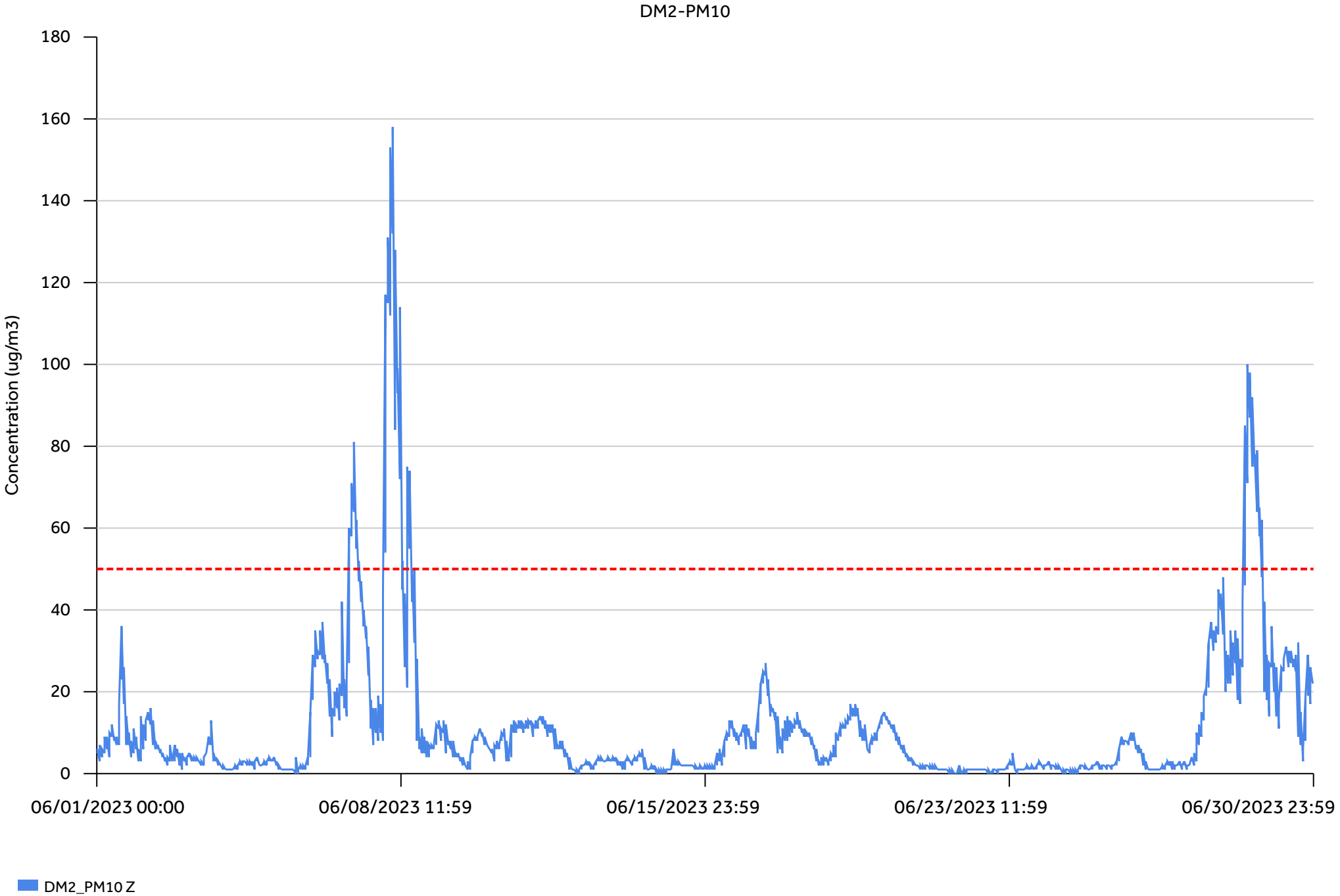

VM-4- Vibration Monitor
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
VM-4 Tran
VM-4 Vert
VM-4 Long
VM-4 PVS Z

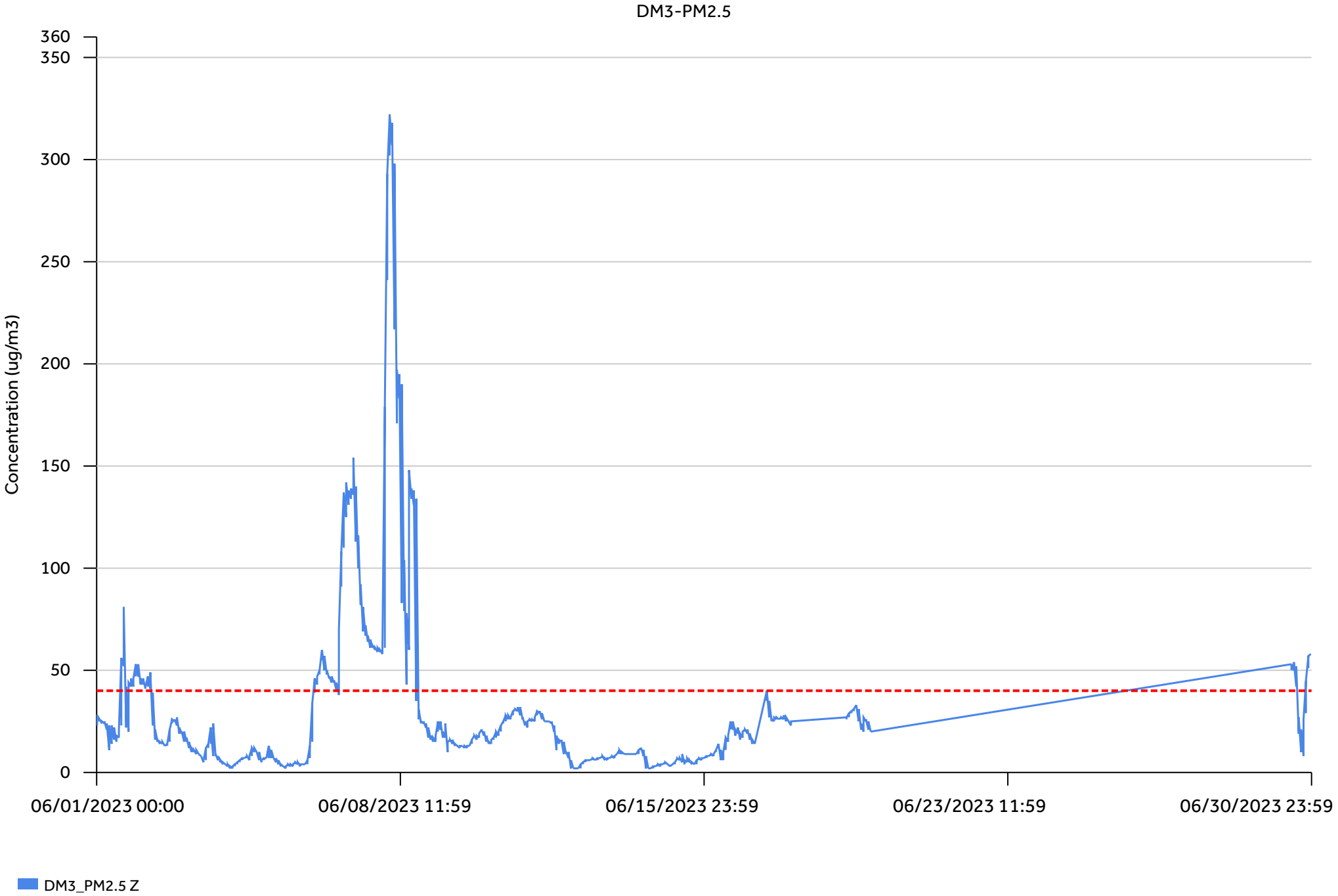

VM-5- Vibration Monitor
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
Vibration (inch/s)
2.5
2
1.5
1
0.5
0
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
VM-5 Tran
VM-5 Vert
VM-5 Long
VM-5 PVS Z

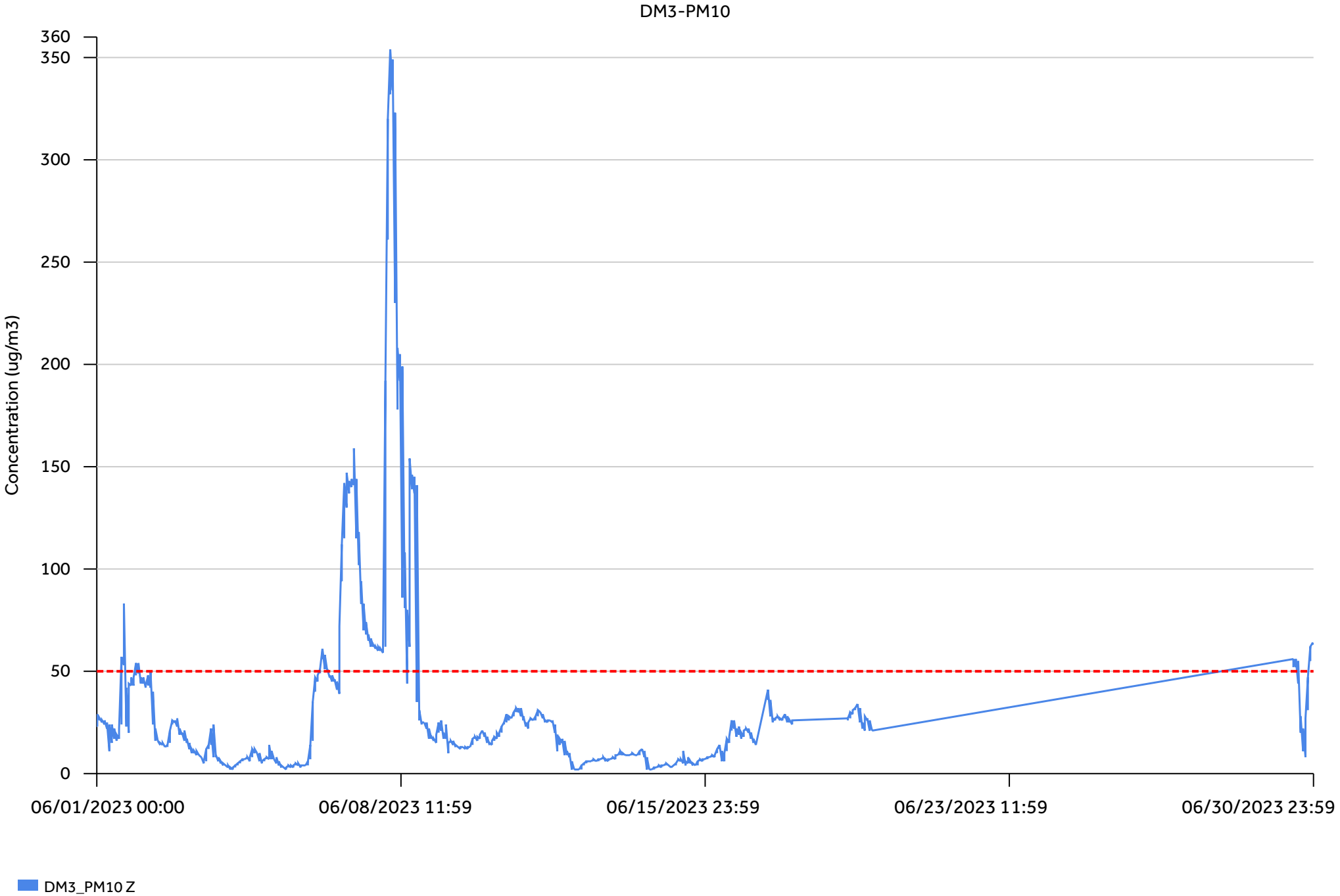

DM1-PM2.5
230
200
150
100
50
0
Concentration (ug/m3)
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
DM1_PM2.5 Z


DM1 - PM10
230
200
150
100
50
0
Concentration (ug/m3)
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
DM1_PM10 Z


DM2-PM2.5
180
160
140
120
100
80
60
40
20
0
Concentration (ug/m3)
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
DM2_PM2.5 Z


DM2-PM10
Concentration (ug/m3)
180
160
140
120
100
80
60
40
20
0
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
DM2_PM10 Z


DM3-PM2.5
360
350
300
250
200
150
100
50
0
Concentration (ug/m3)
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
DM3_PM2.5 Z


DM3-PM10
360
350
300
250
200
150
100
50
0
Concentration (ug/m3)
06/01/2023 00:00
06/08/2023 11:59
06/15/2023 23:59
06/23/2023 11:59
06/30/2023 23:59
DM3_PM10 Z