

RBCAA Technical Feedback – February 2024

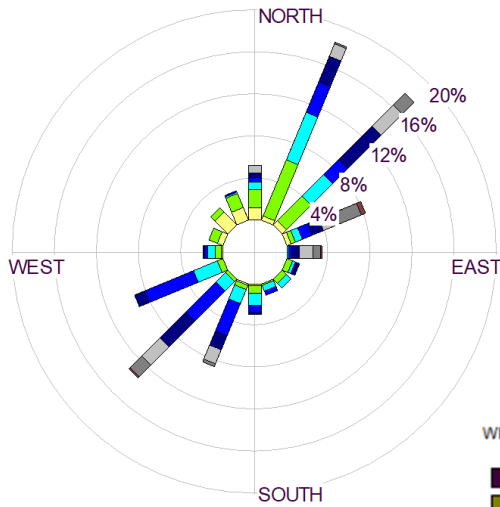


Meteorology

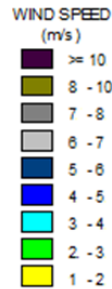
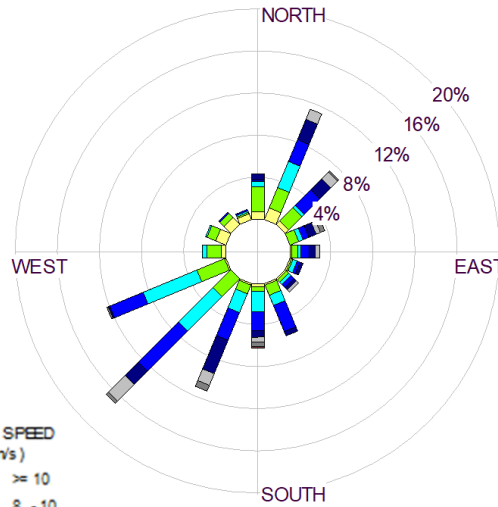
WIND



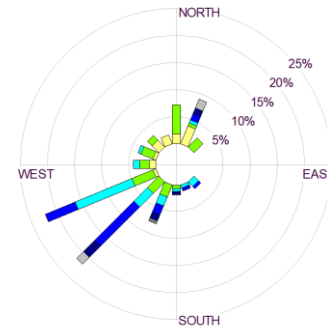
February 2024 Wind Rose



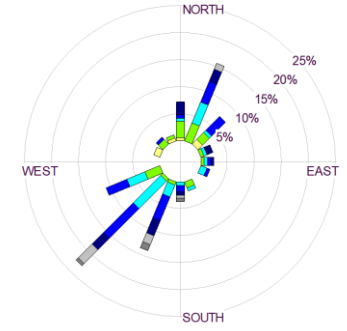
February 2025 Wind Rose



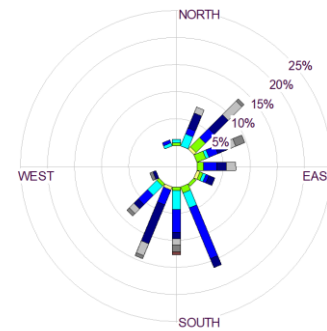
00:00 – 05:59



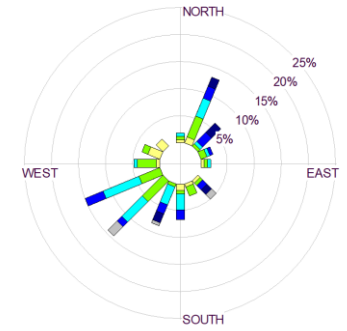
06:00 – 11:59



12:00 – 17:59



18:00 – 23:59

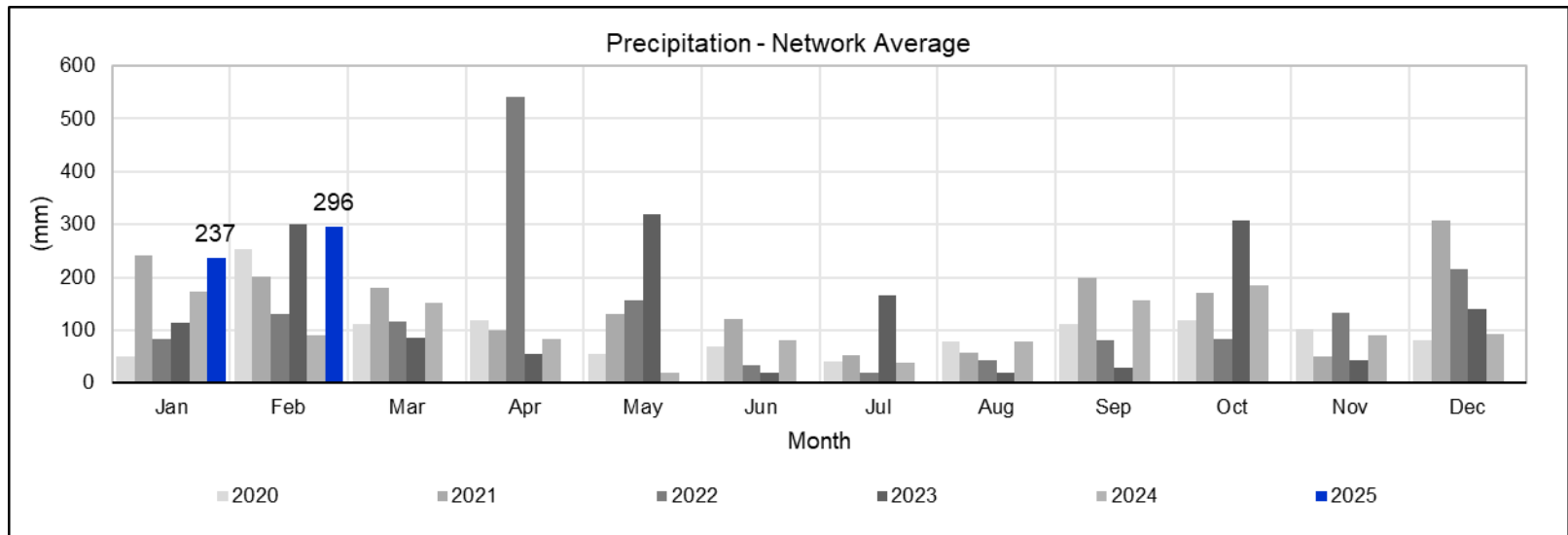
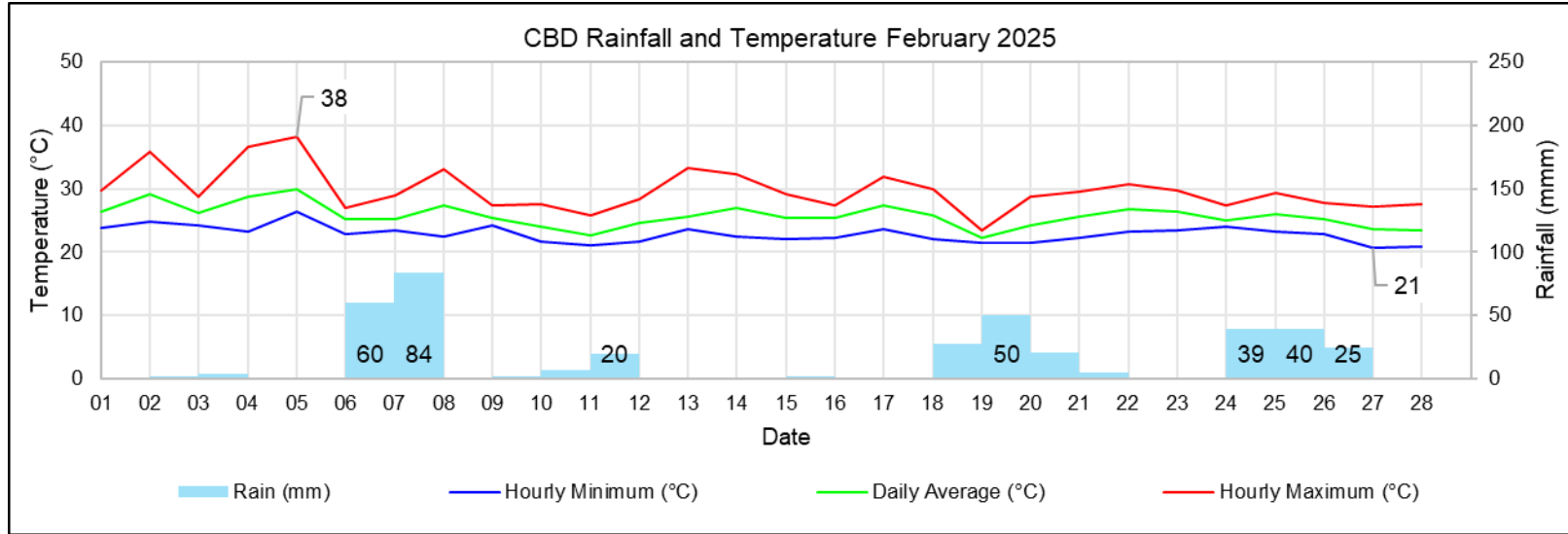


| Period | Wind Speed | Dominant Sector 1 | | Dominant Sector 2 | | Calms | Valid Data |
|---------------|------------|-------------------|-----|-------------------|-----|-------|------------|
| February 2024 | 3.9 m/s | NNE-ENE | 45% | SSW-WSW | 31% | 0% | 98% |
| February 2025 | 3.5 m/s | NNE-NE | 20% | S-WSW | 51% | 0% | 91% |
| 00:00-05:59 | 3.0 m/s | N-NNE | 18% | SSW-WSW | 59% | 0% | 87% |
| 06:00-11:59 | 3.7 m/s | N-NE | 32% | SSW-WSW | 51% | 0% | 93% |
| 12:00-17:59 | 4.3 m/s | NNE-E | 39% | SSE-SW | 53% | 0% | 96% |
| 18:00-23:59 | 3.0 m/s | NNE-NE | 22% | S-WSW | 51% | 0% | 86% |

Meteorology

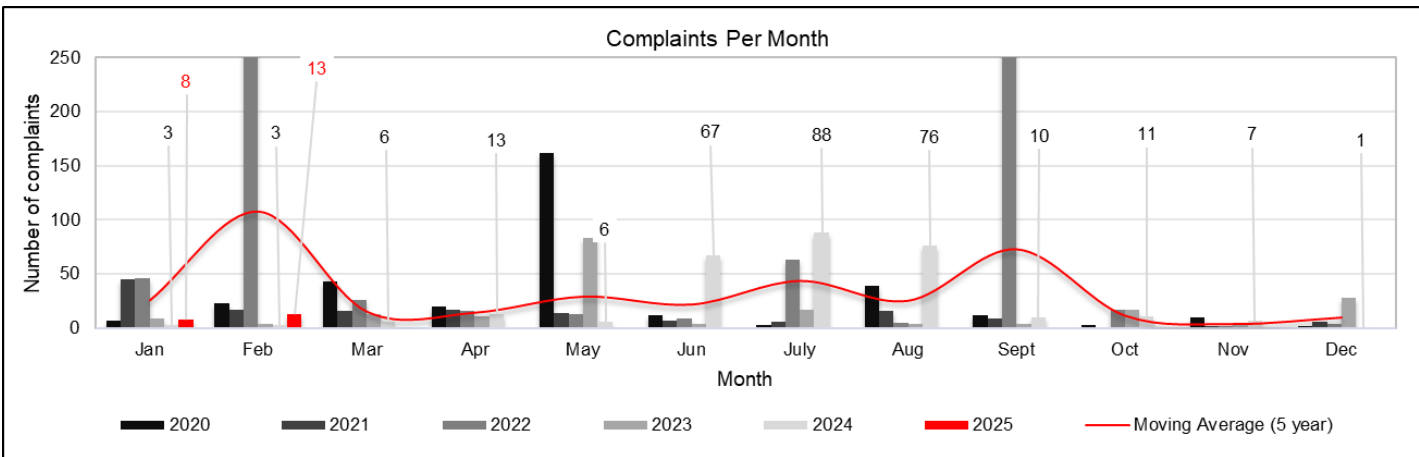
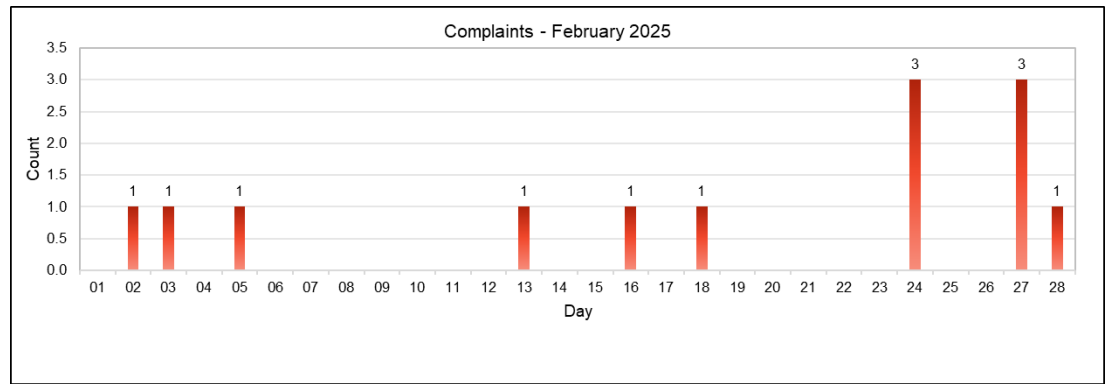
| Month | Richards Bay (mm) | Felixton (mm) | RBCT (mm) | South32 (mm) | Average (mm) |
|---------------|-------------------|---------------|-----------|--------------|--------------|
| February 2025 | 390 | 303 | 249 | 241 | 296 |

RAINFALL AND TEMPERATURE



Complaints

DISTRIBUTION

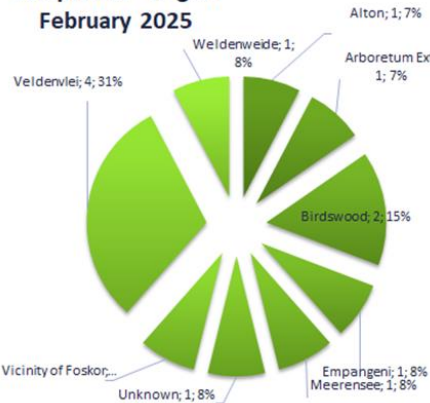


Complaints - Source February 2024

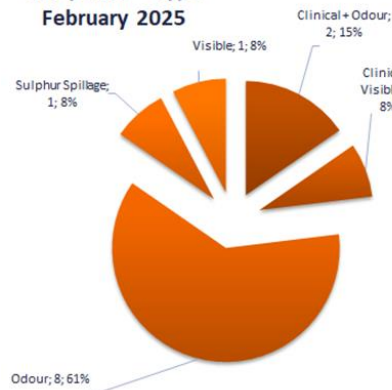
Mondi; 3; 100%



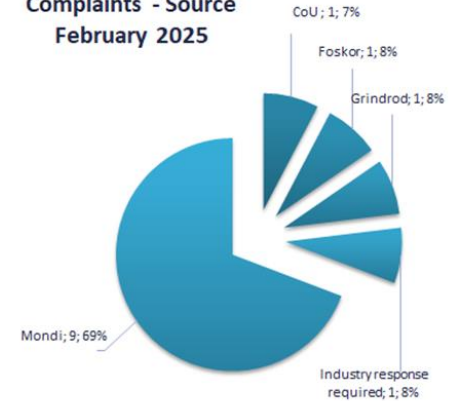
Complaints - Region February 2025



Complaints - Type February 2025

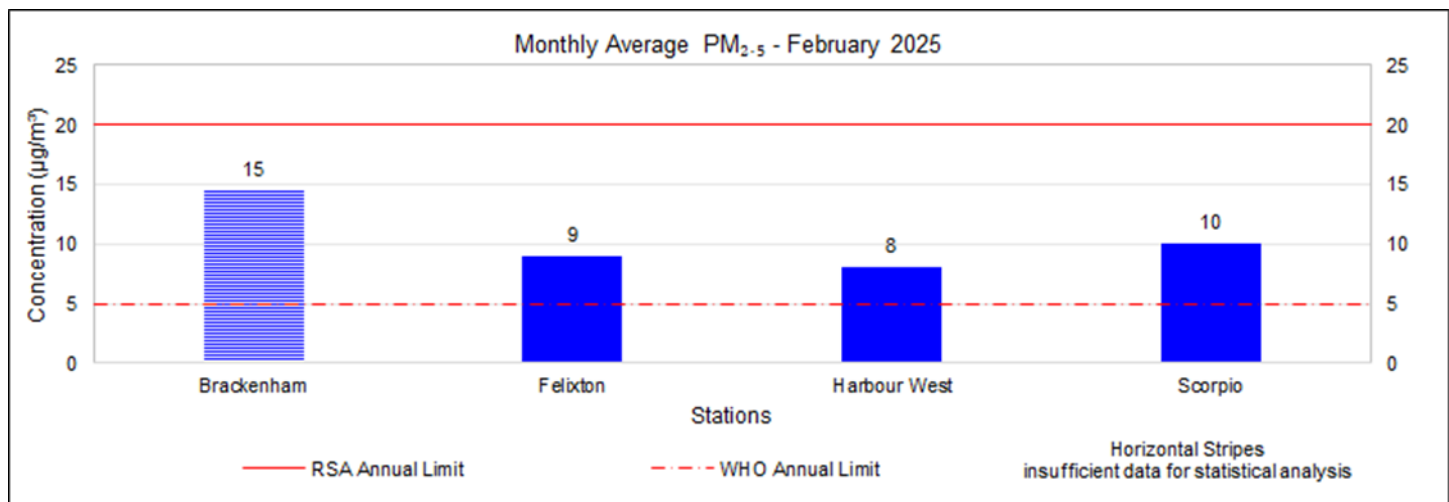
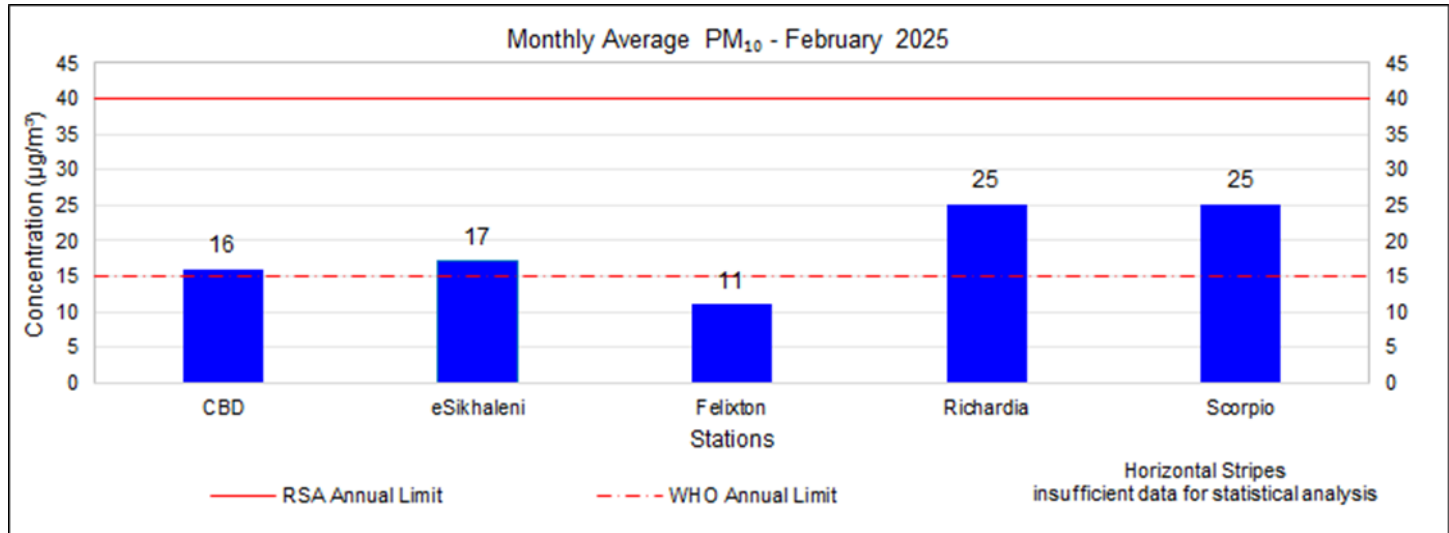


Complaints - Source February 2025



PM

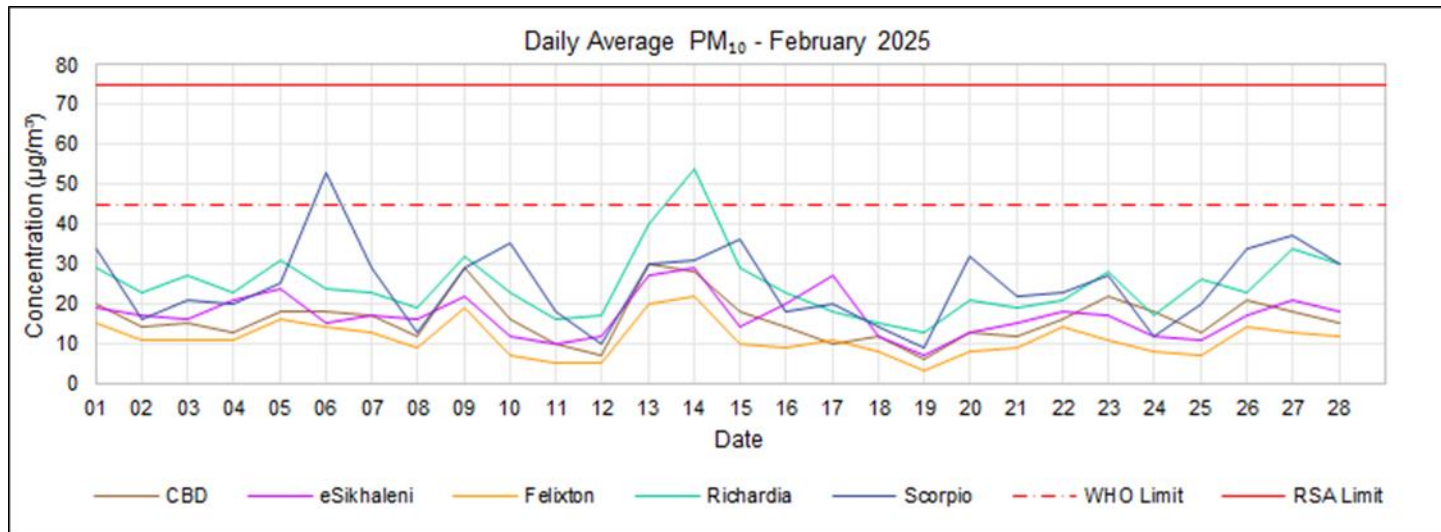
MONTHLY



PM₁₀

24-HOUR

| | |
|--|---|
| PM ₁₀ Daily WHO Limit (45 µg/m ³) | 2 |
| No response required | 2 |
| Richardia | 1 |
| None | 1 |
| Scorpio ES1 | 1 |
| None | 1 |



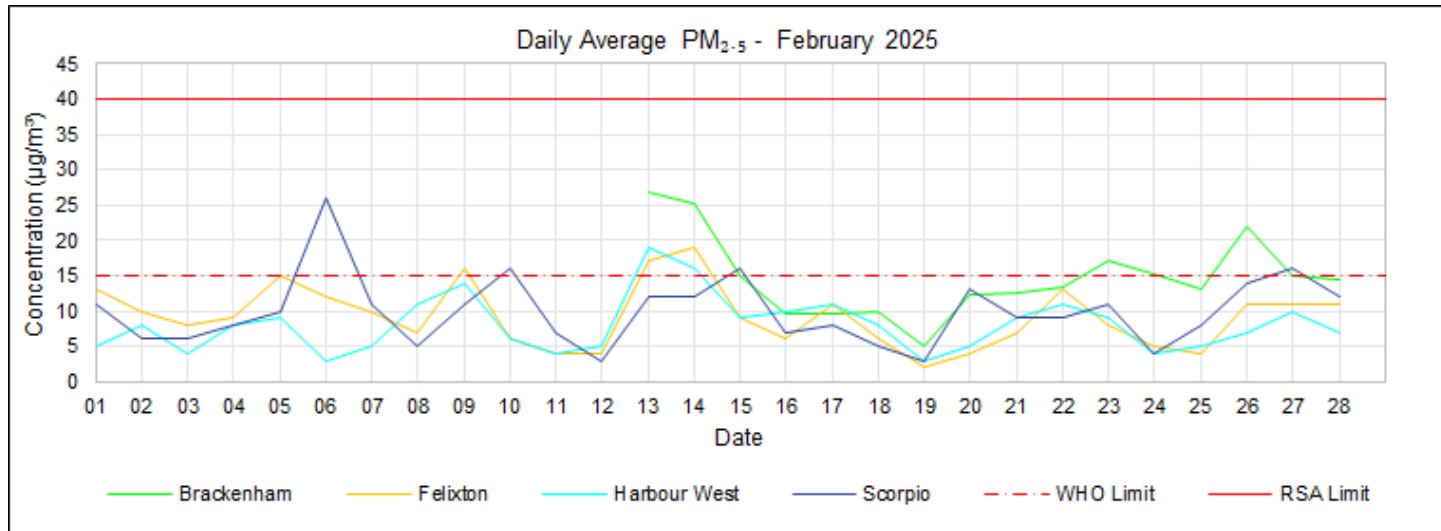
Missing Data (PM₁₀)

- None.

PM_{2.5}

24-HOUR

| | |
|---|----|
| PM _{2.5} Daily WHO Limit (15 µg/m ³) | 12 |
| No response required | 12 |
| Scorpio ES2 | 4 |
| None | 4 |
| Felixton ES2 | 2 |
| None | 2 |
| Brackenham ES2 | 5 |
| None | 5 |
| Harbour West ES2 | 1 |
| None | 1 |

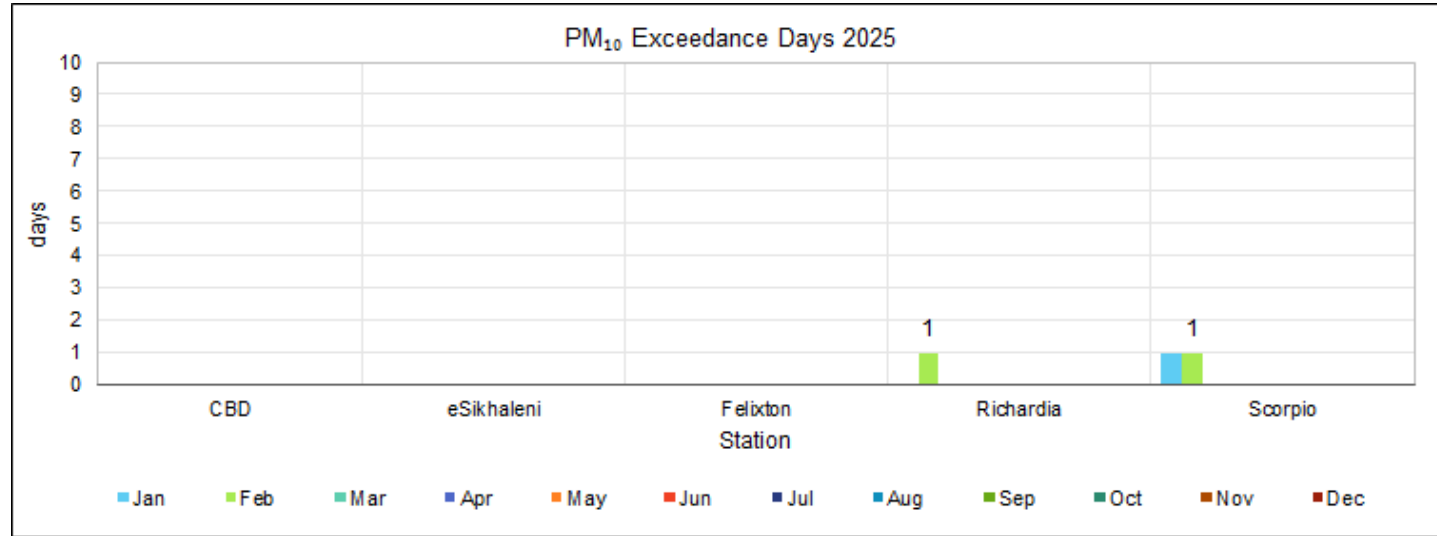


Missing Data (PM_{2.5}):

- *Brackenham – the station was commissioned on the 12th (12 days with <80% data capture 1-12 February 2025).*

PM₁₀

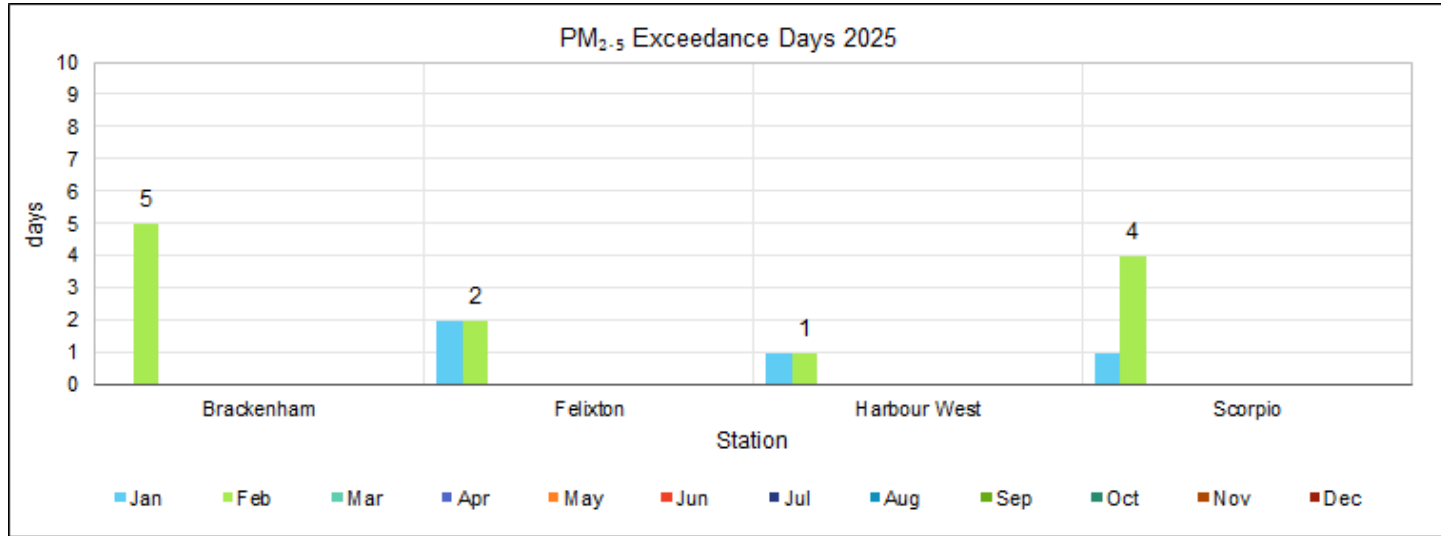
EXCEEDANCE DAYS



| 2025 | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| PM₁₀ Daily RSA Limit (75 µg/m³) | | | | | | | | | | | | | |
| Brackenham | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| CBD | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Felixton | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Richardia | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Scorpio | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| PM₁₀ Daily WHO Limit (45 µg/m³) | | | | | | | | | | | | | |
| Brackenham | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| CBD | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Felixton | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Richardia | - | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| Scorpio | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 2 |

PM_{2.5}

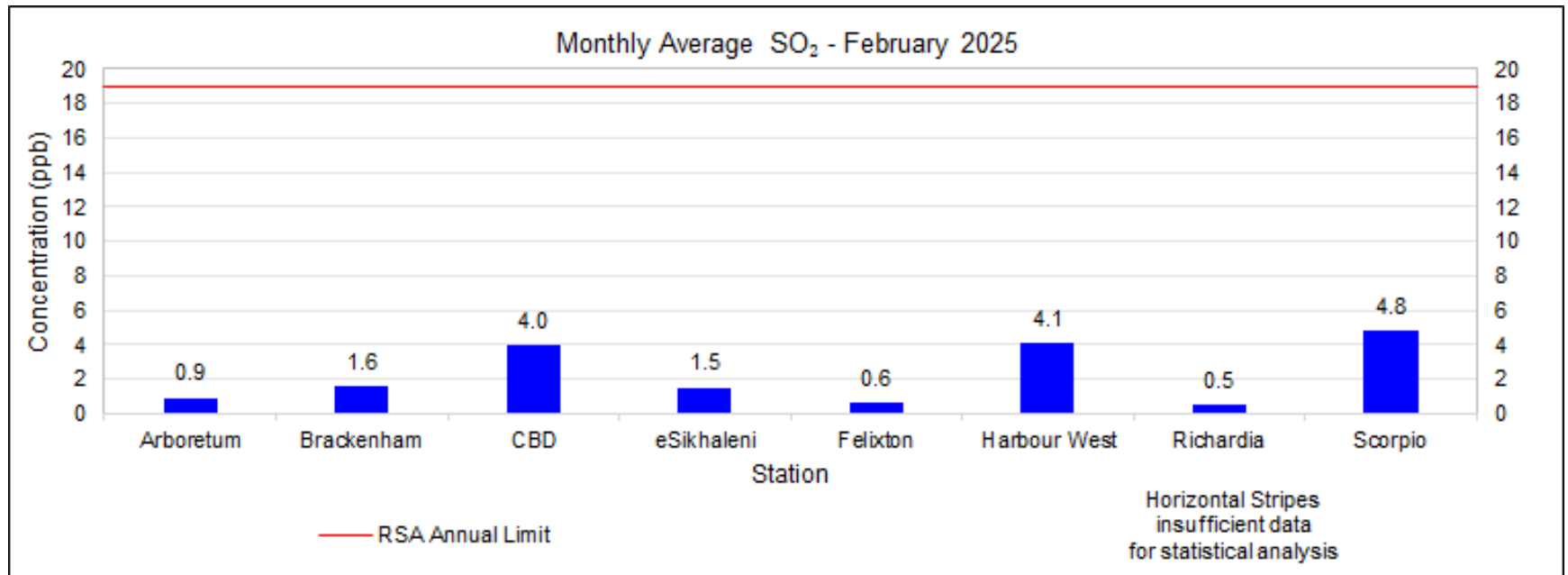
EXCEEDANCE DAYS



| 2025 | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| PM_{2.5} Daily RSA Limit (40 µg/m³) | | | | | | | | | | | | | |
| Brackenham | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Felixton | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Harbour West | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Scorpio | - | - | - | - | - | - | - | - | - | - | - | - | - |
| PM_{2.5} Daily WHO Limit (15 µg/m³) | | | | | | | | | | | | | |
| Brackenham | - | 5 | - | - | - | - | - | - | - | - | - | - | 5 |
| Felixton | 2 | 2 | - | - | - | - | - | - | - | - | - | - | 4 |
| Harbour West | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 2 |
| Scorpio | 1 | 4 | - | - | - | - | - | - | - | - | - | - | 5 |

SO₂

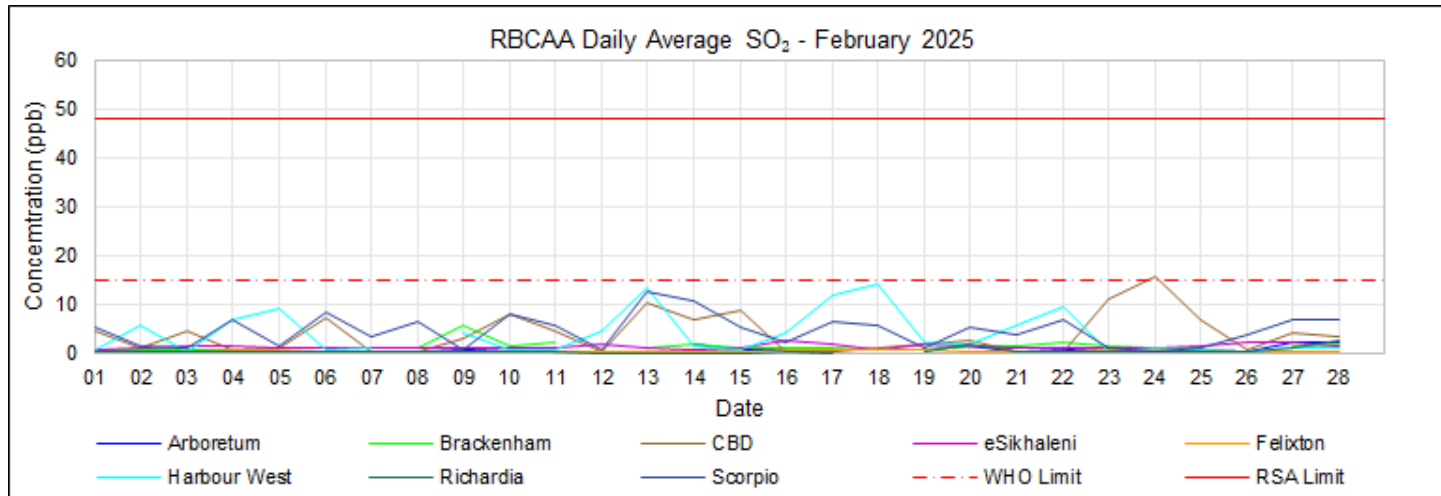
MONTHLY



SO₂

24-HOUR

| | |
|--|---|
| SO ₂ Daily WHO Limit (15 ppb) | 1 |
| No response required | 1 |
| CBD | 1 |
| None | 1 |

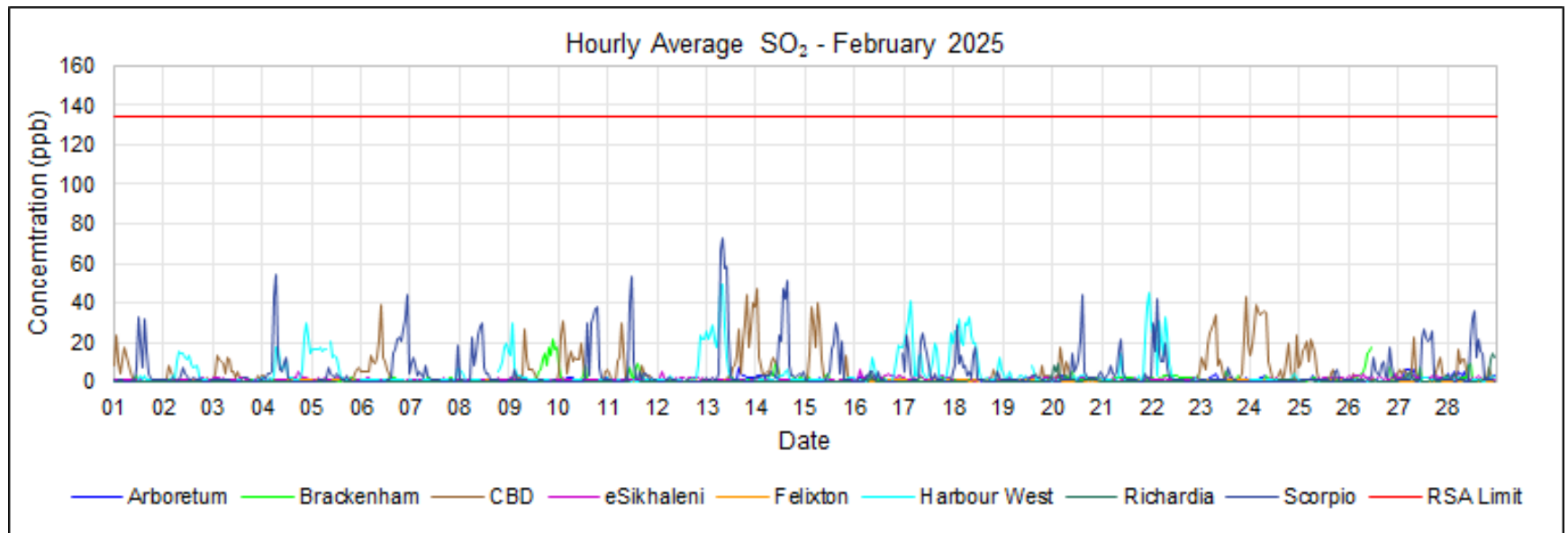


Missing Data (SO₂):

- Arboretum - power outages, data invalidation (2 days with <80% data capture 13, 18 February 2025).
- Brackenham - power outages, data invalidation (2 days with <80% data capture 12, 26 February 2025).
- Harbour West - power outages, data invalidation (1 day with <80% data capture 8 February 2025).
- Richardia - power outages, data invalidation (1 day with <80% data capture 18 February 2025).

SO₂

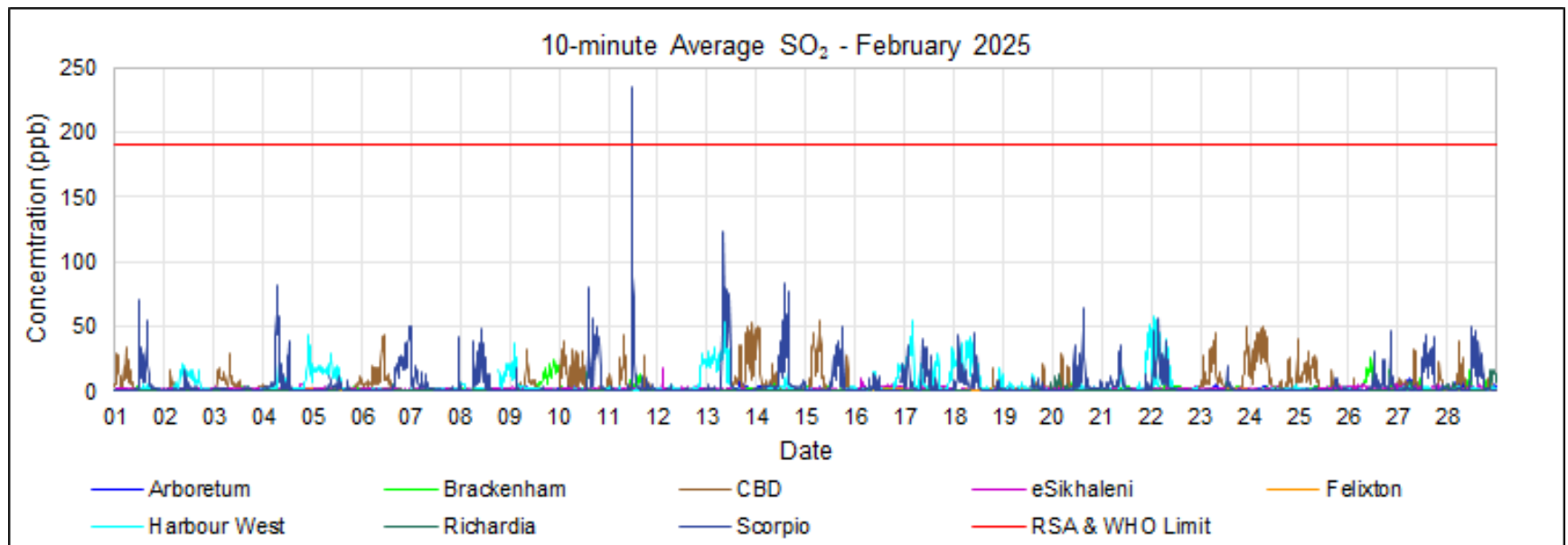
1-HOUR



SO₂

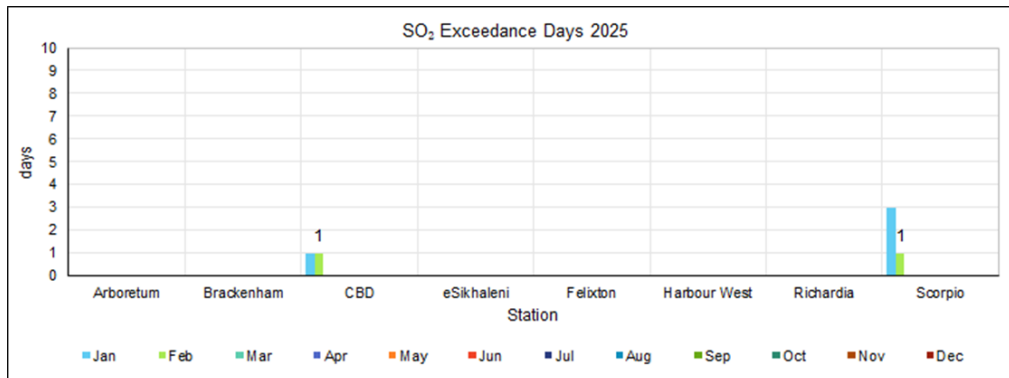
10-MINUTE

| SO ₂ 10-minute RSA & WHO Limit (191 ppb) | | 1 |
|---|--|---|
| Foskor | | 1 |
| Scorpio | | 1 |
| Smouldering sulphur residue | | 1 |



SO₂

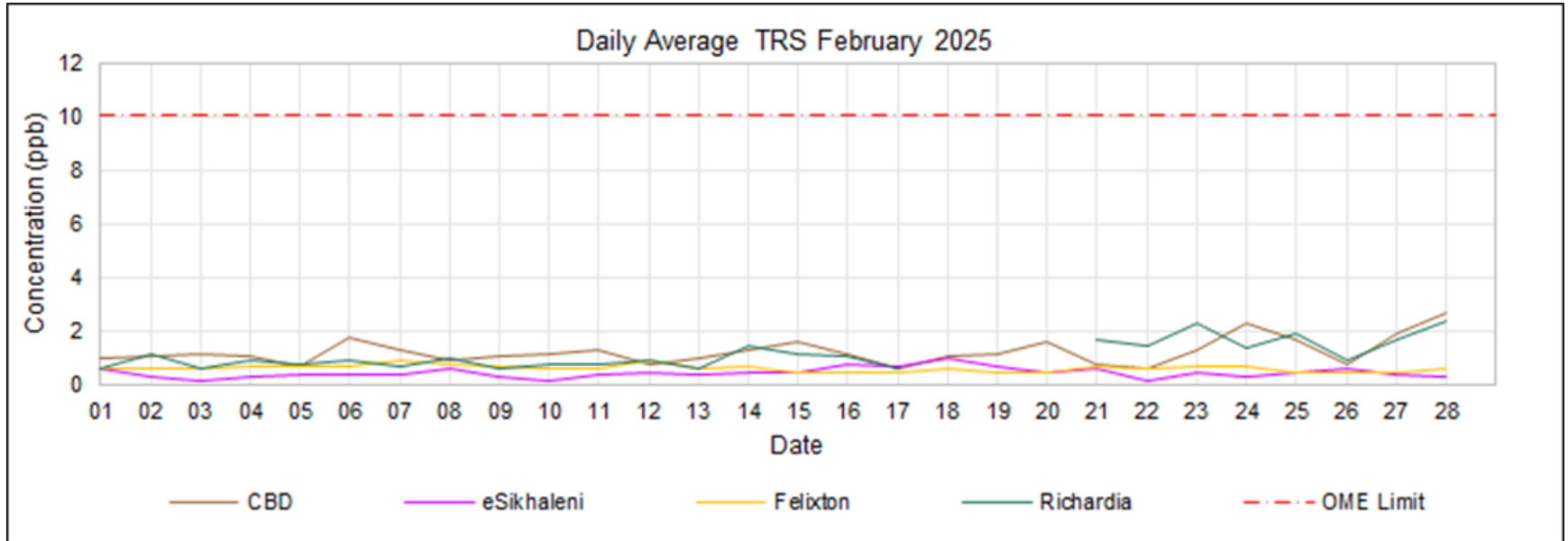
EXCEEDANCE DAYS



| 2025 | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| SO₂ Daily WHO Limit (15 ppb) | | | | | | | | | | | | | |
| CBD | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Harbour West | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Richardia | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Scorpio | 3 | - | - | - | - | - | - | - | - | - | - | - | 3 |
| SO₂ Hourly RSA Limit (134 ppb) | | | | | | | | | | | | | |
| CBD | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Harbour West | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Richardia | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Scorpio | 4 | - | - | - | - | - | - | - | - | - | - | - | 4 |
| SO₂ 10-minute RSA & WHO Limit (191 ppb) | | | | | | | | | | | | | |
| CBD | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Harbour West | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Richardia | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Scorpio | 18 | - | - | - | - | - | - | - | - | - | - | - | 18 |

TRS

24-HOUR



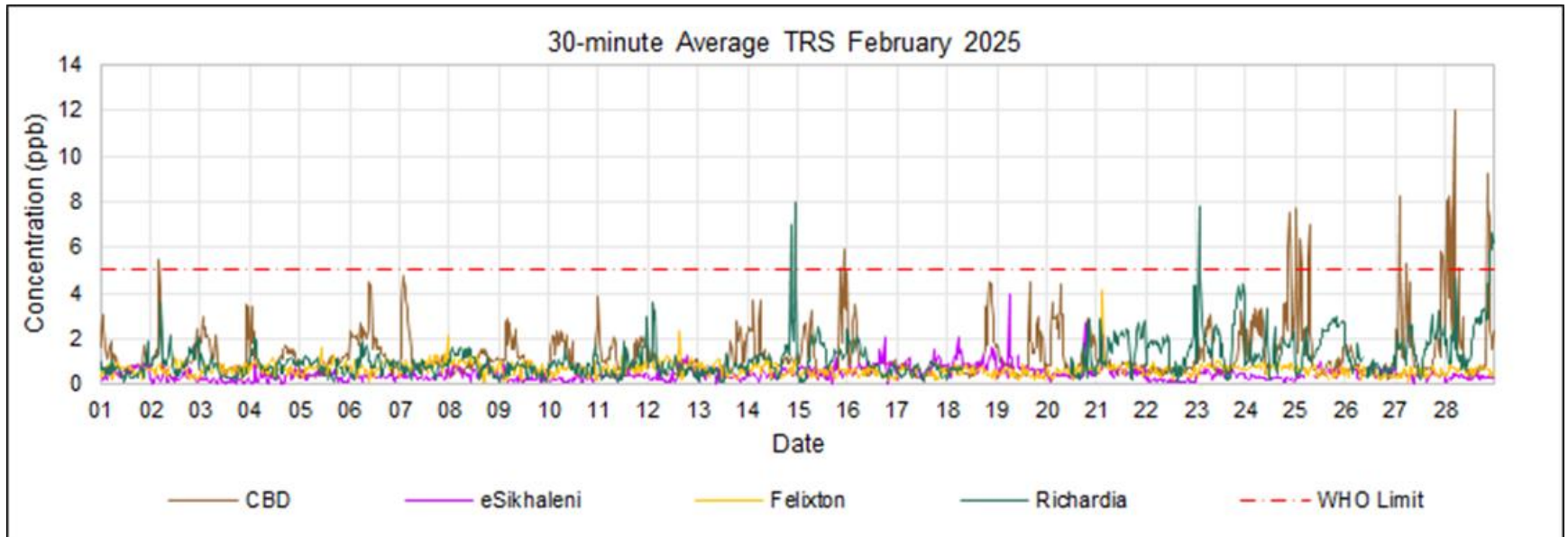
Missing Data (TRS):

- *Richardia – power outages, data invalidation (3 days with <80% data capture 18-20 February 2025).*

TRS

30-MINUTE

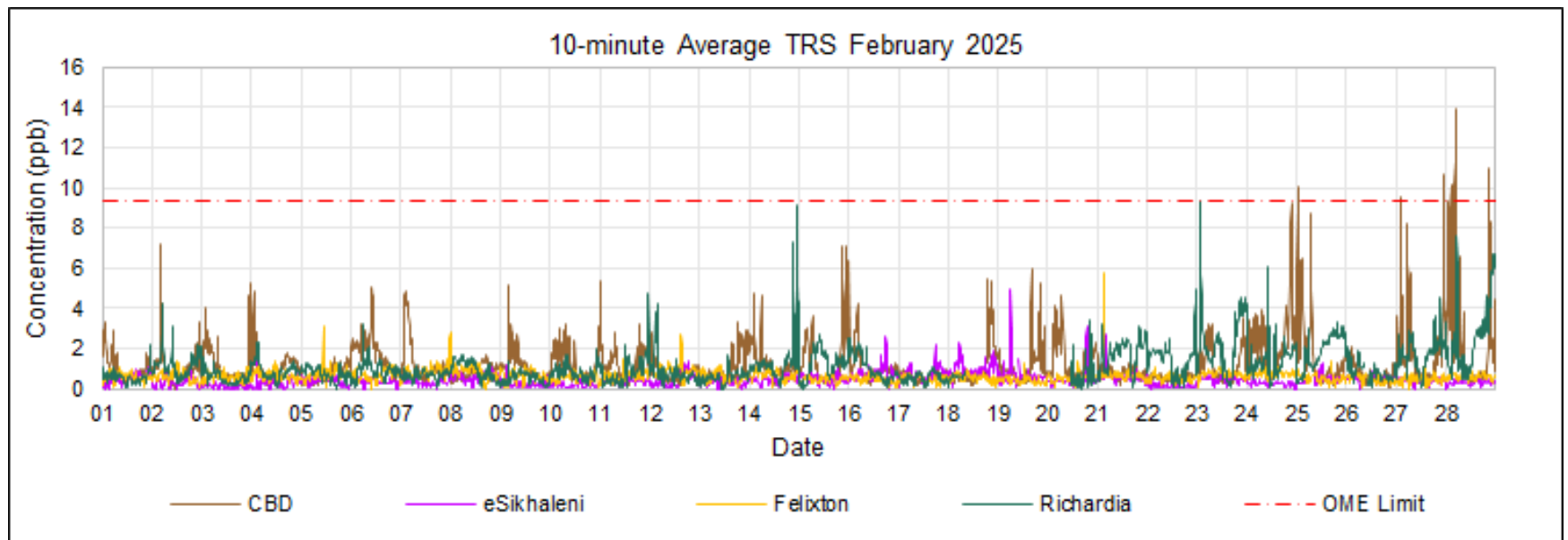
| | |
|---|-----------|
| TRS 30-minute WHO H₂S Limit (5.0 ppb) | 32 |
| Industry response required | 3 |
| CBD | 3 |
| None | 3 |
| Mondi | 29 |
| CBD | 22 |
| Based on meteorology | 2 |
| Non-condensable Gas system | 1 |
| Secondary Effluent Treatment Plant | 5 |
| Softwood (SW) blowdowns | 14 |
| Richardia | 7 |
| Secondary Effluent Treatment Plant | 3 |
| Softwood (SW) blowdowns | 4 |



TRS

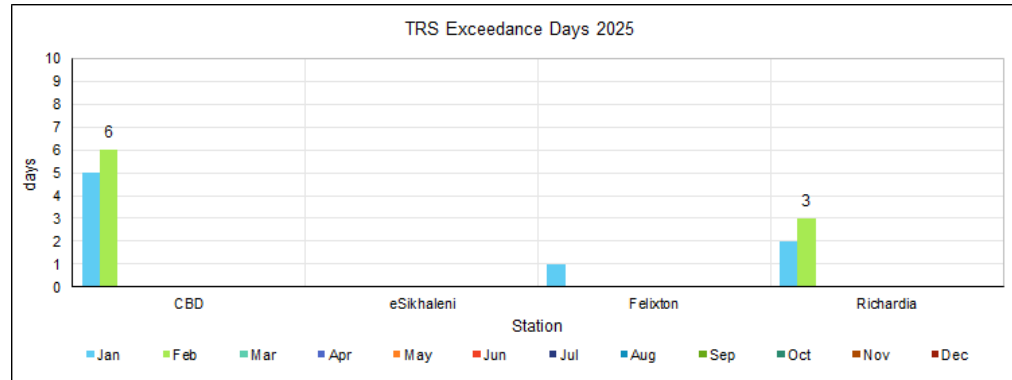
10-MINUTE

| | |
|------------------------------------|-----------|
| TRS 10-minute OME Limit (9.3 ppb) | 11 |
| Mondi | 11 |
| CBD | 10 |
| Secondary Effluent Treatment Plant | 1 |
| Softwood (SW) blowdowns | 9 |
| Richardia | 1 |
| Secondary Effluent Treatment Plant | 1 |



TRS

EXCEEDANCE DAYS



| 2025 | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| TRS 24-hr-OME Limit (10.1 ppb) | | | | | | | | | | | | | |
| CBD | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Felixton | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Richardia | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| TRS 30-minute WHO H₂S Limit (5.0 ppb) | | | | | | | | | | | | | |
| CBD | 34 | 25 | - | - | - | - | - | - | - | - | - | - | 59 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Felixton | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| Richardia | 5 | 7 | - | - | - | - | - | - | - | - | - | - | 12 |
| TRS 10-minute OME Limit (9.3 ppb) | | | | | | | | | | | | | |
| CBD | 53 | 10 | - | - | - | - | - | - | - | - | - | - | 63 |
| eSikhaleni | - | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Felixton | 2 | - | - | - | - | - | - | - | - | - | - | - | 2 |
| Richardia | 3 | 1 | - | - | - | - | - | - | - | - | - | - | 4 |

Air Quality

SUMMARY

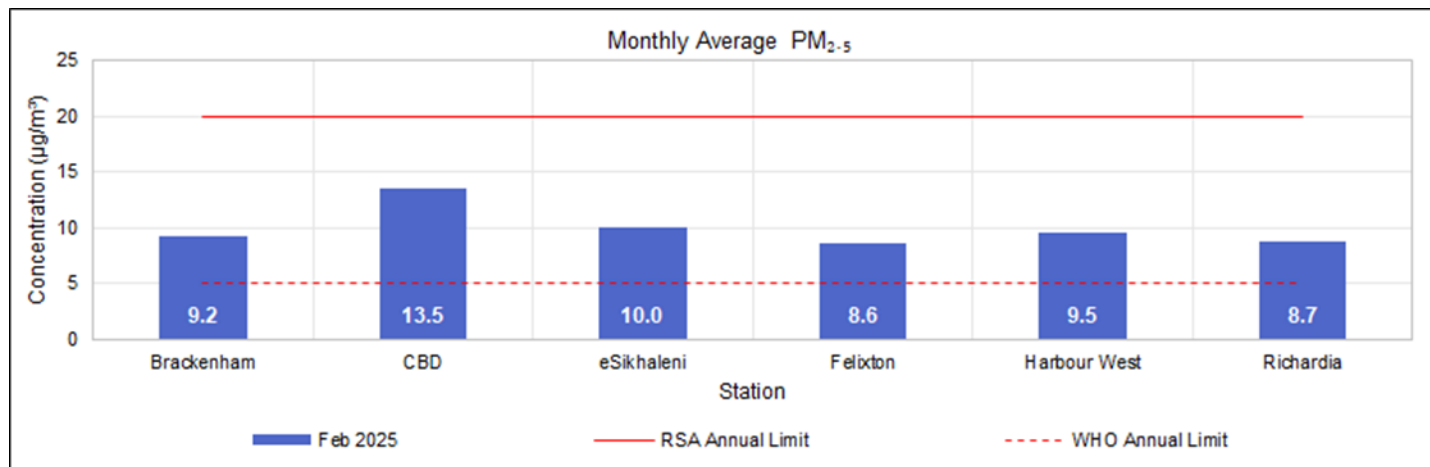
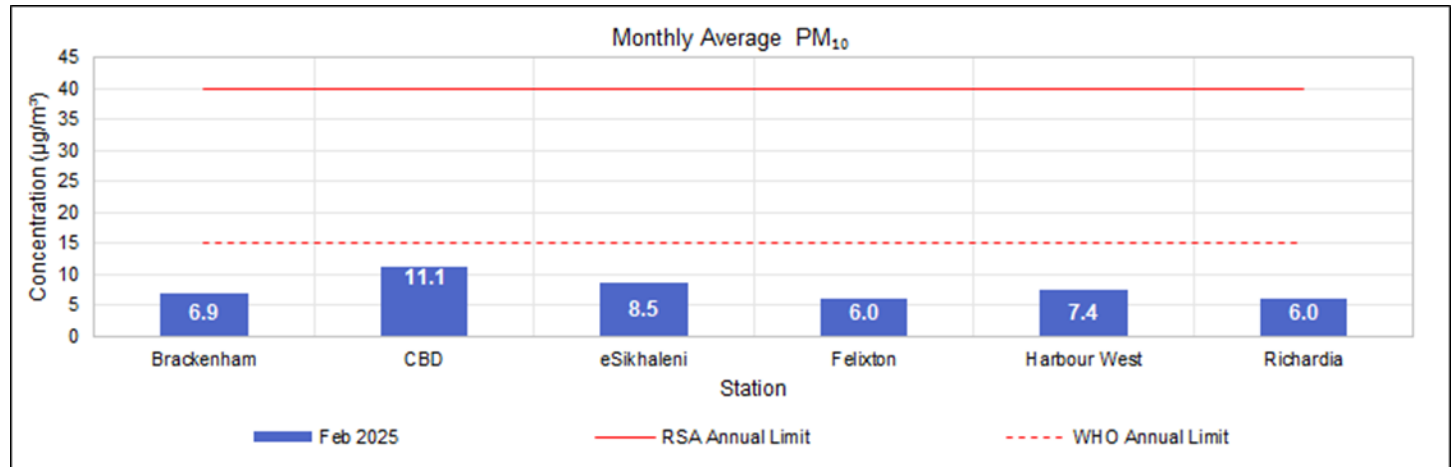
AIMS concludes that during February 2025, based on the following:

- ▶ Measured long-term average concentrations (chronic exposure) and WHO health guidelines of concern are:
 - PM₁₀ at CBD, eSikhaleni, Richardia and Scorpio;
 - PM_{2.5} at Brackenham, Felixton, Harbour West and Scorpio.

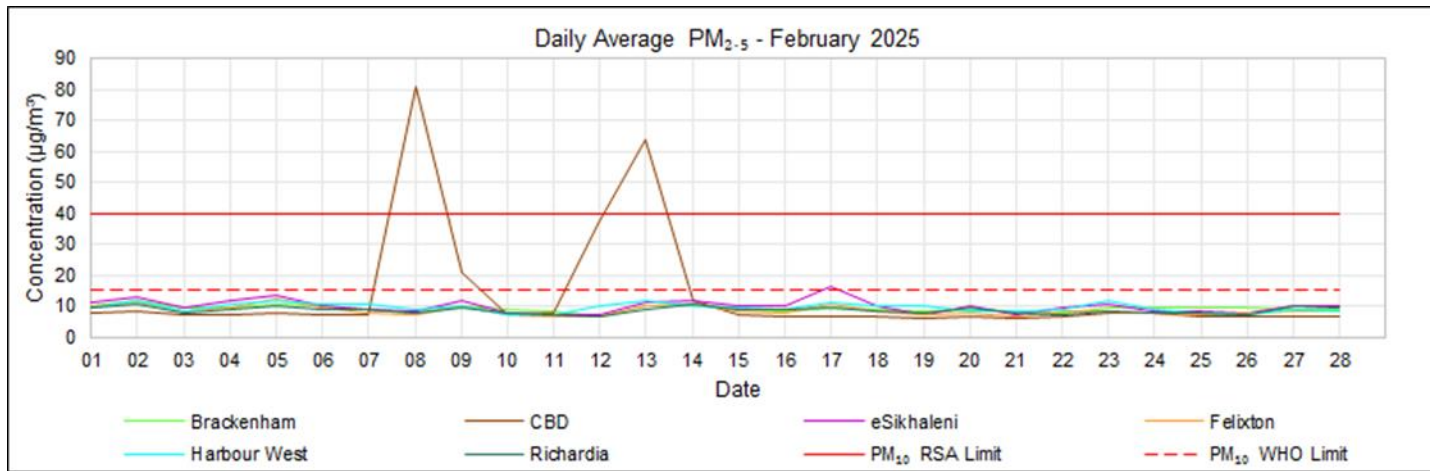
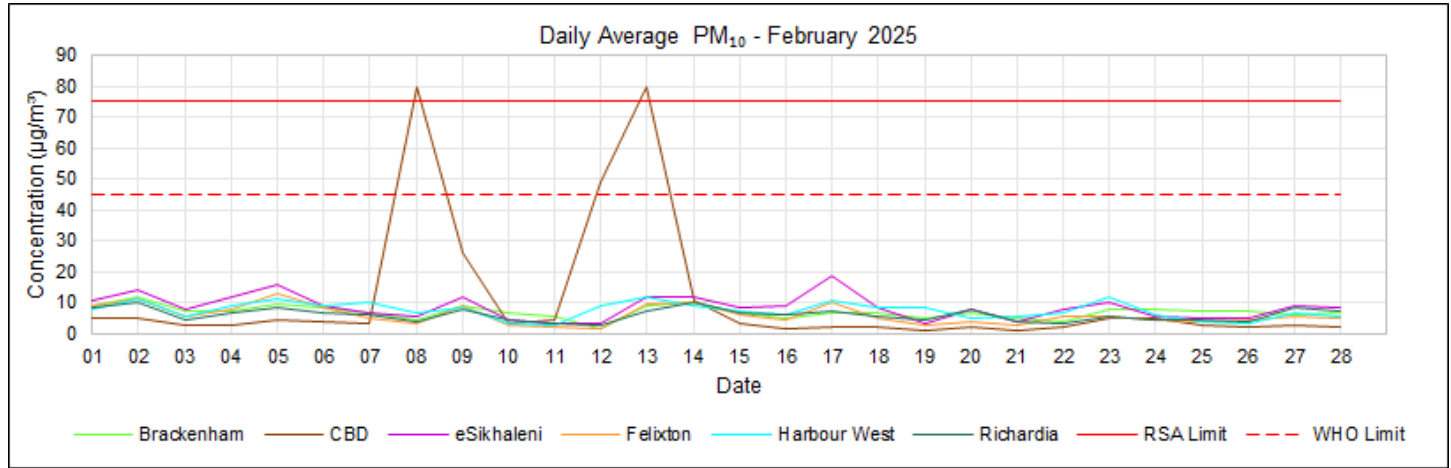
- ▶ Measured short-term average concentrations (acute exposure) and WHO health guidelines ambient air quality was compromised by:
 - PM₁₀ Richardia and Scorpio;
 - PM_{2.5} at Brackenham, Felixton, Harbour West and Scorpio; and
 - TRS at CBD, and Richardia.

AirGradient PM

MONTHLY

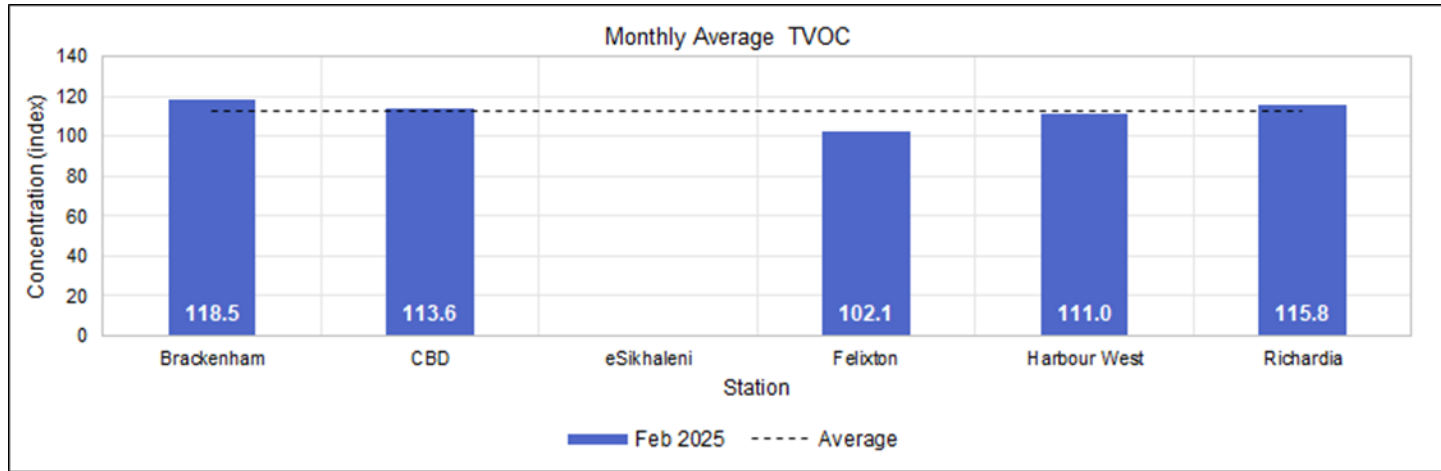


AirGradient PM DAILY

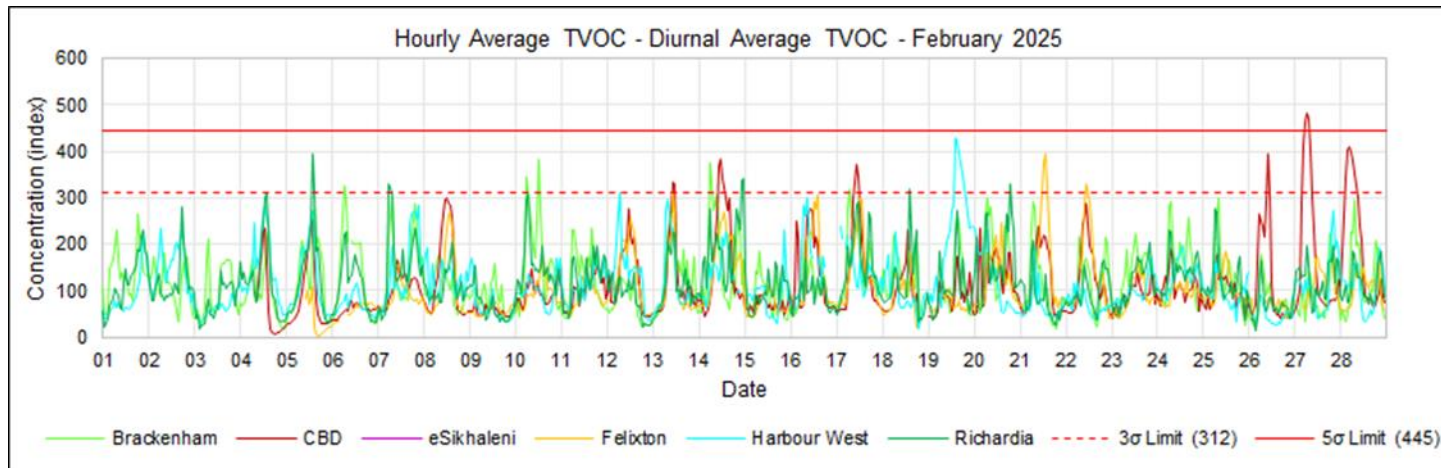


AirGradient TVOC

MONTHLY

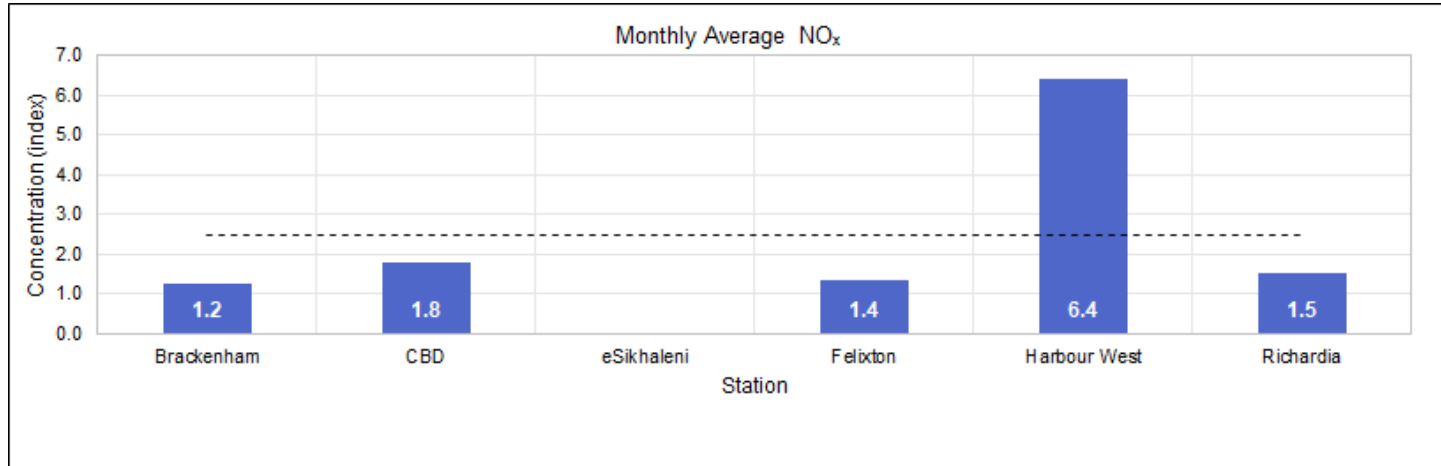


1-HOUR

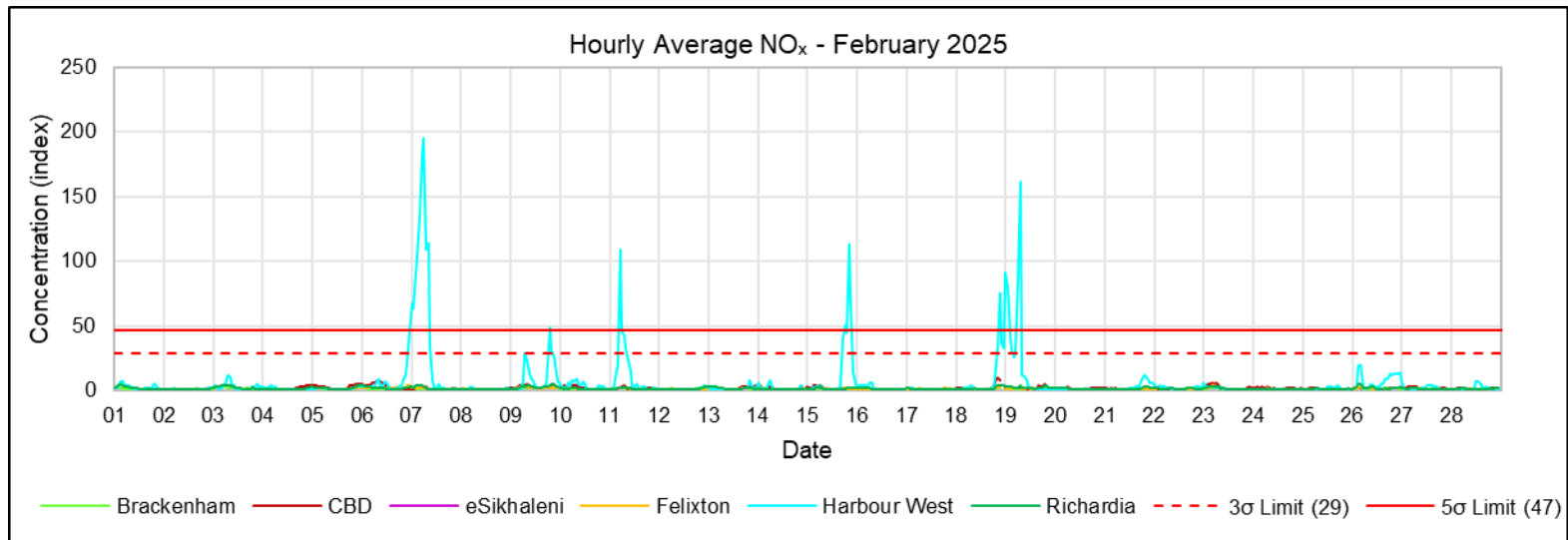


AirGradient NO_x

MONTHLY

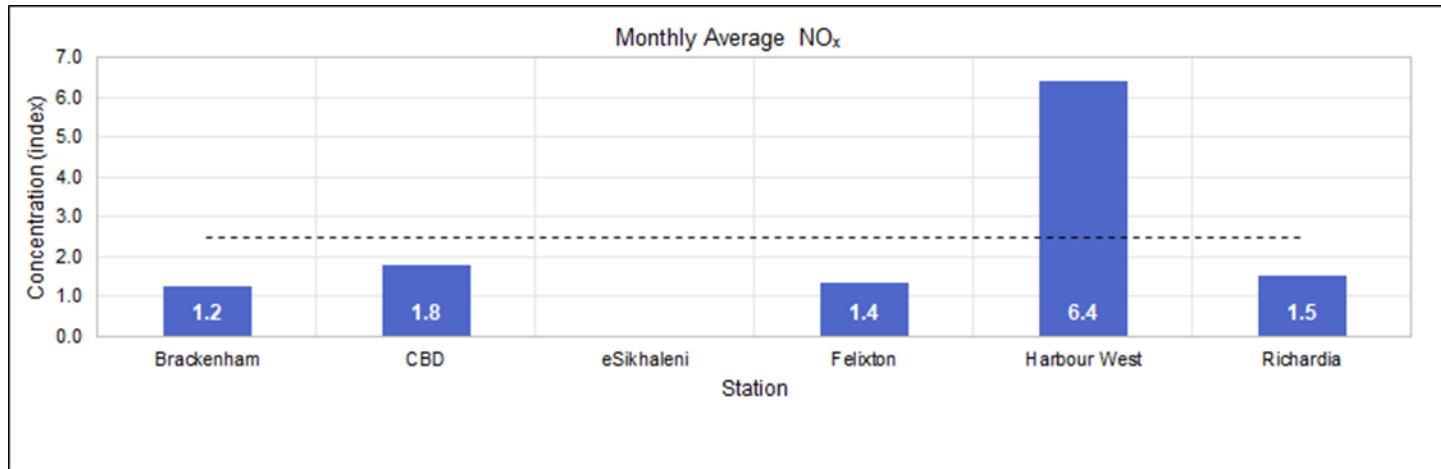


1-HOUR

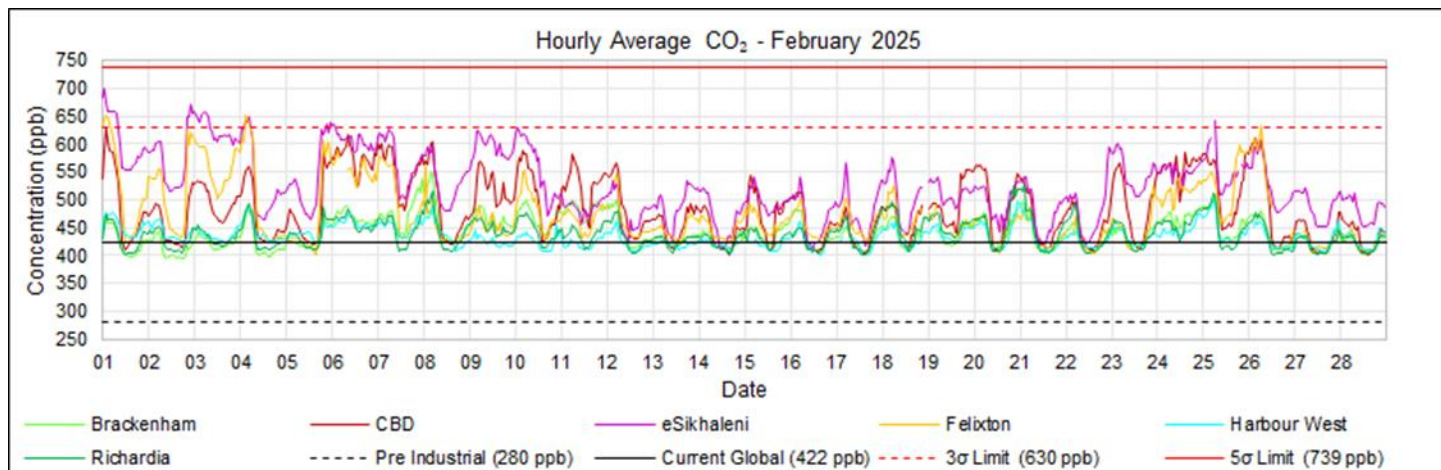


AirGradient CO₂

MONTHLY



1-HOUR



Thank you



-
- Lance Coetzee
 - lance@airimpact.co.za

 - Francois Nel
 - francois@airimpact.co.za

 - Alicia Garnica
 - alicia@airimpact.co.za