



Health Unit – Pollution Control and Risk Management

Presentation by: Mr. Phathutshedzo Raphalalani

12 March 2024



Introduction

Air Quality Management

Legislative Mandate as per Section 4B Constitutional Responsibilities and includes the development and implementation of an AQMP, Ambient Air Quality Monitoring, Atmospheric Emission Licensing, and Compliance Monitoring.

Air Quality Management Bylaws for eThekweni provide for reasonable measures to prevent air pollution.

South Durban Basin (SDB)

Historical Context

- The South Durban Industrial Basin is home to several industries such as petrochemical, pulp and paper plants, a plethora of small and medium chemical and other industries.
- These are located near residential areas due to *historic poor town planning*, which resulted in air pollution impacting negatively on communities, thereby causing untold health impacts.



ENGEN Refinery

- Engen Refinery, located at 403-459 Tara Road, Wentworth, holds an AEL and a Scheduled Activities permit issued by the Health Unit, eThekweni Municipality.

Before the current AEL was issued to Engen Petroleum Limited, a Public Participation Process (PPP) was undertaken.

Comments and concerns from the public were considered by eThekweni Municipality before issuing the Licence. This is reflected on the current AEL, because it has stringent conditions that Engen Petroleum Limited must comply with.



Engen Petroleum Limited is in possession of its third AEL, issued on **31 March 2020**. The validity of this AEL spans from **1 April 2020 to 31 March 2025**. The renewal for this AEL must be submitted by **1 October 2024**, at the latest.

The AEL is structured with provisions aimed at protecting both the environment and human health, all the while prioritizing sustainable development for present and future generations.

Licence /Permit Compliance

- The refinery has been offline since December 2020 and the site has been operating in a Terminal mode, with Special projects as and when required.
- Decontamination activities that commenced in May 2021 on the processing units were required to ensure that the Refinery will remain in a safe state whilst offline.
- The last stack emission report indicated that the emissions are well within the National standard limits.
- A VRU unit was sent for commissioning on the 3rd to 28th October 2022 with successful completion.
- Quarterly BTEX results show that the facility is well within limits.
- Fence-line monitoring results show no concerns with regard to VOCs, currently.

Stakeholder Engagements

The eThekweni Metropolitan Municipality remains committed to enhancing community engagement concerning air quality management within its jurisdiction and in this case the South Durban basin(SDB) for the betterment of residents.

SDB multi-stakeholder meetings were convened by National DFFE and the Local Authority with SDCEA and local Industries as directed by the Parliamentary Committee. This has since been terminated as the Municipality was considered competent and adequately equipped to address local air quality matters.

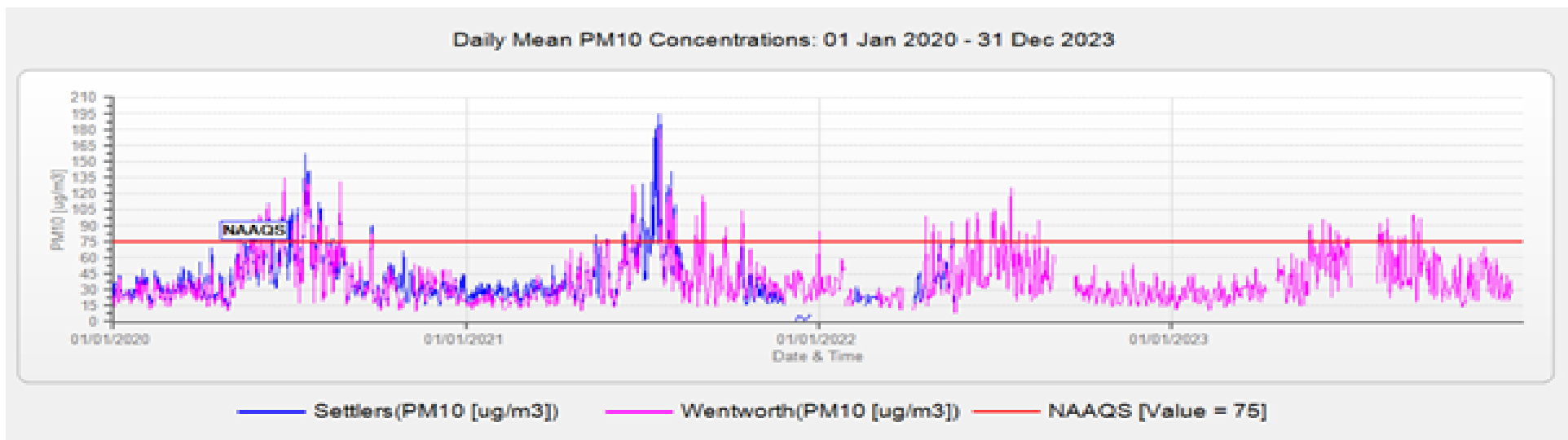
Current engagements are done through:

1. The Quarterly eThekweni Air Quality Forum
2. Stakeholder Engagement Platforms/forums, and Joint Committees (JC) specific to each licensed facility.

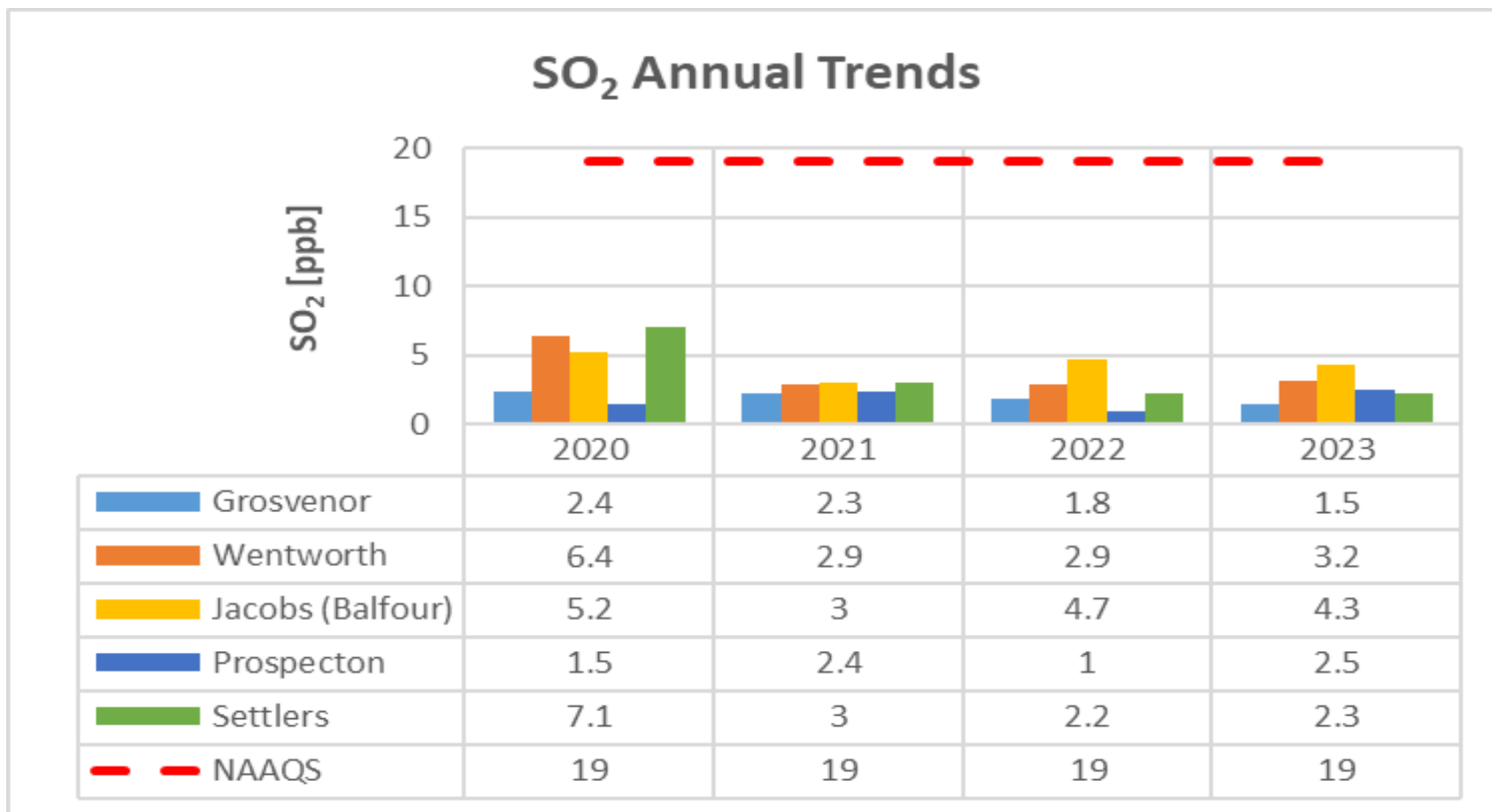
In the context of this discussion, ENGEN holds facilitated Joint Committee engagements on a quarterly or Ad hoc basis(based on urgent need).

Ambient air quality trends in the SDB for the period 2020-2023

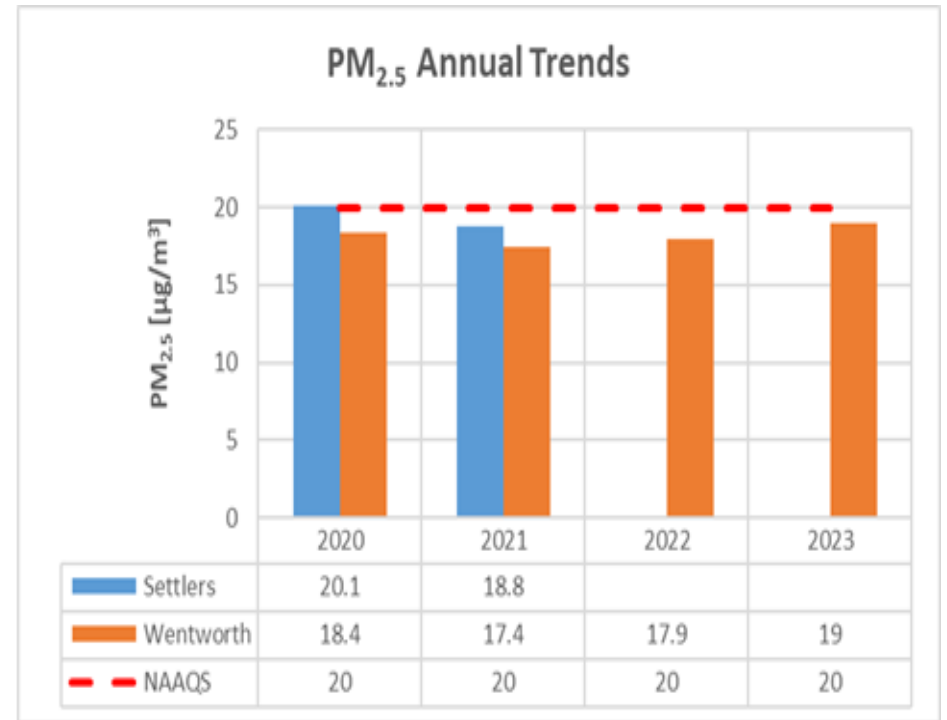
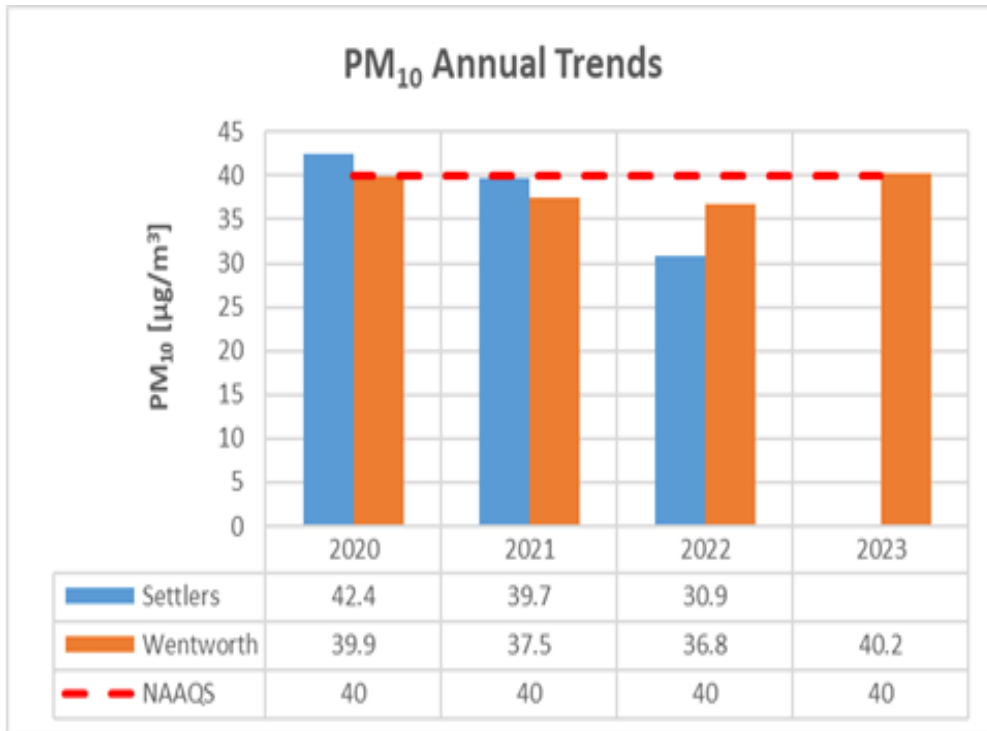
Ambient air quality trends of SO₂, PM₁₀, PM_{2.5}, and Benzene (C₆H₆) are benchmarked against the applicable National Ambient Air Quality Standards (NAAQS), and the human health exposure is quantified using the Air Quality Index (AQI).



Annual SO₂ trend at the SDB during year 2020 – 2023. No exceedances of the annual SO₂ NAAQS of 19 ppb



Annual PM_{2.5} and PM₁₀ trends at the SDB during the year 2020 – 2023.



Air Quality Index PM_{2.5}

Report Type: Index Index Type: SA AQI
Date Time: 01/01/2020 00:00-31/12/2020 23:00 Time Base: AnnuallyPeriod

Days/Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	G	G	G	G	G	M	G	V	G	G	G	G
2	G	G	G	G	M	M	M	U	G	G	G	G
3	G	G	G	G	G	M	G	U	G	G	G	G
4	G	G	G	G	G	G	U	U	G	G	G	G
5	G	G	G	G	G	G	V	G	G	G	G	G
6	G	G	G	G	G	G	M	G	G	G	G	G
7	G	G	G	G	G	G	G	G	G	G	G	G
8	G	G	G	G	G	M	G	G	G	G	G	G
9	G	G	G	G	G	M	G	G	G	G	G	G
10	G	G	G	G	G	M	M	G	G	G	G	G
11	G	G	G	G	M	G	G	G	G	G	G	G
12	G	G	G	G	G	G	G	G	G	G	G	G
13	G	G	G	G	G	G	M	G	G	G	G	G
14	G	G	G	G	G	U	G	G	G	G	G	G
15	G	G	G	G	U	G	M	G	G	G	G	G
16	G	G	G	G	G	G	M	G	G	G	G	G
17	G	G	G	G	M	G	M	G	G	G	G	G
18	G	G	G	G	U	G	V	G	G	G	G	G
19	G	G	G	G	G	G	U	G	G	G	G	G
20	G	G	G	G	G	M	U	U	G	G	G	G
21	G	G	G	G	G	G	U	G	G	G	G	G
22	G	G	G	G	G	G	U	G	G	G	G	G

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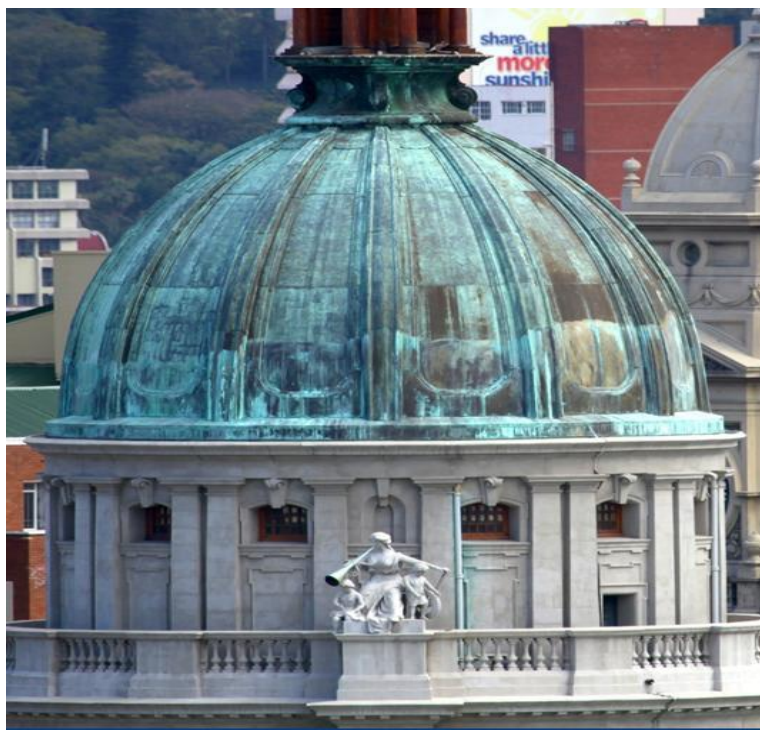
Days/Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
22	G	G	G	G	G	G	U	G	G	G	G	G
23	G	G	G	G	G	M	M	H	G	G	G	G
24	G	G	G	G	G	M	G	U	G	G	G	G
25	G	G	G	G	G	M	M	G	G	G	G	G
26	G	G	G	G	G	M	G	G	G	G	G	G
27	G	G	G	G	G	M	G	G	G	G	G	G
28	G	G	G	G	U	G	G	G	G	G	G	G
29	G	G	G	G	G	U	G	G	G	G	G	G
30	G		G	G	G	G	G	G	G	G	G	G
31	G		M		G		G	G		G		G
Good	26	27	28	22	3		3	7	18	25	25	20
Good	4	2	2	7	7	8	2	12	10	6	5	11
Good	1			1	15	8	10	5	2			
Moderate			1		3	10	7					
Moderate						2	2					
Unhealthy					3	2		2				
Unhealthy							5	3				
Very Unhealthy							1	1				
Very Unhealthy							1					
Hazardous								1				
NoData Count	10											

Passive Sampling

- The eThekweni Health Unit, has in this financial year, secured 120 Hydrogen sulphide (H₂S) passives to undertake a screening programme in areas that have been identified as potential H₂S hotspots.
- The Health Unit has agreed to collaborate with SDCEA in the SDB, to co-locate passive samples to ensure balanced coverage.

Conclusion

- The eThekweni Health Unit is committed to providing reasonable measures to prevent air pollution impacts on both the environment and human health within the SDB and the Municipality as a whole, using the available legislative tools.



THANK YOU