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Dear Ms Mthembu

## **TUTUKA POWER STATION'S ATMOSPHERIC EMISSIONS ANNUAL REPORT – 2024/25**

### **1. INTRODUCTION**

This serves as the annual report required in terms of Section 7.6.3 of Tutuka Power Station Atmospheric Emission License (No Lekwa/Eskom H SOC Ltd TPS/0013/20/2019/F03 dated 25 April 2019. The report is for 2024/25 financial Year.

The Atmospheric Emission License (AEL) was issued by Gert Sibande District Municipality in terms section 41(1) of the National Environmental Management Act, 2004 in respect of listed activities in Category 1: Solid fuel combustion Installation; **Category 2**: Storage of Petroleum Products and **Category 5**: Storage and handling of Ore and Coal.

The contents of the report include information on the following as required by condition 7.6.3 of the license.

- a) NEMAQA Section 21 pollutant emissions trend for listed activity
- b) External compliance audit report(s)
- c) Major upgrades projects (i.e abatement equipment or process equipment)
- d) Greenhouse gas emissions annual report in line with National Greenhouse Gas Emissions Reporting Regulations
- e) Action taken to address complaints received.
- f) Annual report on implementation of Highveld Priority Air Management Plan and offset programme/projects
- g) Compliance status to statutory obligations (4.5) including any other issued authorisations.

## TUTUKA POWER STATION'S ATMOSPHERIC EMISSIONS ANNUAL REPORT – 2024/25

### 1. INTRODUCTION

Eskom Holdings SOC Limited Tutuka Power Station obtained its Atmospheric Emission License (AEL) which was issued by Gert Sibande District Municipality in terms section 41(1) of the National Environmental Management Act, 2004 in respect of Listed Activity Category 1: Solid fuel combustion Installation; Category 2: Storage of Petroleum Products and Category 5: Storage and handling of Ore and Coal.

The AEL was issued with binding conditions and requirements for the license holder. Among these, condition 7.6.3 stipulates that the license holder must prepare and submit an annual report to the licensing authority, which must include the following:

### 2. DISCUSSION

This discussion presents the information required by condition 7.6.3 for the year under review (April 2024 – March 2025)

#### a) NEM: AQA SECTION 21 POLLUTANT EMISSION TRENDS FOR LISTED ACTIVITY

MONTH	SO <sub>x</sub> (Tons)	NO <sub>x</sub> (Tons)	PMs (Tons)	COAL BURNED (Tons)
April 2024	5 236	2 366	542.50	248 753
May 2024	6 934	2 948	431.70	309 954
June 2024	5 997	2 747	520.40	288 810
July 2024	10 688	5 084	1183.70	534 524
Aug. 2024	11 213	5 011	1181.50	526 918
Sept. 2024	8 391	3 954	1126.00	415 772
Oct. 2024	10 677	4 880	1223.60	513 104
Nov. 2024	6 726	3 042	824.00	319 825
Dec. 2024	4 096	1 856	494.50	195 106
Jan. 2025	6 088	2 937	542.70	308 810
Feb. 2025	9 710	4 124	656.40	433 661
Mar. 2025	11 663	5 450	1428.87	573 072
<b>TOTAL</b>	<b>97 419</b>	<b>44 398</b>	<b>10155.87</b>	<b>4 668 309</b>

Table 1: Section 21 Pollutants

## TUTUKA POWER STATION'S ATMOSPHERIC EMISSIONS ANNUAL REPORT – 2024/25

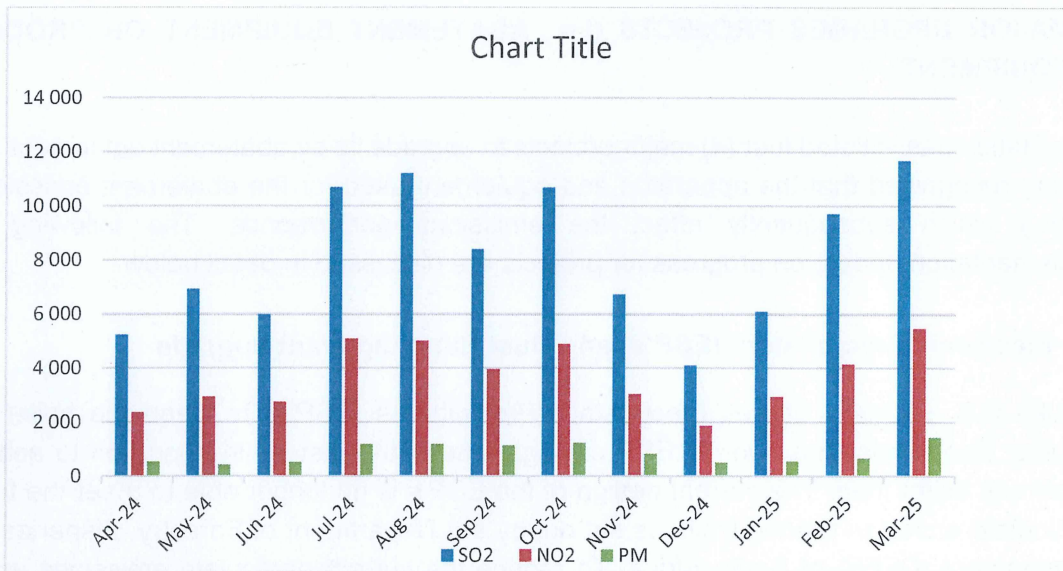


Figure 1: Section 21 pollutants

### b) EXTERNAL COMPLIANCE AUDIT REPORT

An external legal compliance audit was conducted by **Vombe Environmental Consultants** in **February 2024**. The purpose of the independent compliance evaluation audit was to determine whether the Eskom Tutuka Power Station operations and Contractors are complying with the applicable Legal and regulatory requirements; conditions of various Environmental Authorisations (EA), Water Use Licences and General Water Use Authorisations; organisation's applicable ISO 14001:2015 standard requirements on evaluation of legal compliance; including conditions of various applicable Environmental Management Plans. A copy of an external legal compliance audit report is attached.

The summary Environmental Authorisations & Licences overall performance is presented in table 1 below:

#### Environmental Authorisations & Licences Summary

ITEM	POSSIBLE SCORE	ACHIEVED	RATING (%)
<b>Atmospheric Emission Licence in Terms of The National Environmental Management: Air Quality Act, 2004 (Act No. 39 Of 2004) As Amended. (Lekwa/Eskom H SOC Ltd TPS /0013/2019/F03)</b>	<b>72</b>	<b>70</b>	<b>97%</b>
Waste Management Licence in Terms of Section 49(1)(A) of the National Environmental Management: Waste Act, 2008 (Act No. 59 Of 2008) (12/9/11/L456/6/R1)	184	156	85%
Integrated Water Use License (IWUL) In Terms Of Chapter 4 of The National Water Act, 1998 (Act No. 36 Of 1998) (08/C11K/ABCFG/1016)	216	179	83%
Extension Of Ash Disposal Facility for Tutuka Power Station, Mpumalanga Province (14/12/16/3/3/3/52)	76	64	84%
<b>TOTAL</b>	<b>548</b>	<b>469</b>	<b>86%</b>



**c) MAJOR UPGRADES PROJECTS (i.e., ABATEMENT EQUIPMENT OR PROCESS EQUIPMENT)**

The Station has initiated four (4) major projects to upgrade its air abatement equipment after having recognised that the apparatus and equipment used for the abatement emission is ageing which subsequently affect the emissions performance. The following are implementation update on progress for projects are discussed in detail below.

**1. Electronic Precipitators (ESP's) and Dust Handling Plant upgrade**

Tutuka P.S. currently utilises Electrostatic Precipitators (ESP's) to clean the boiler flue gasses. Each boiler has two (2) ESP casings, and both must be in operation to achieve maximum boiler load. The current design of the ESP's is no longer able to meet the future particulate emission licence limits as set out by the Department of Forestry, Fisheries and Environment (DFFE) of South Africa. To reduce the current particulate emissions and to meet the new MES limits of 50mg/Nm<sup>3</sup>, the existing ESP's will be retrofitted.

The refurbishment of units 5, 6 and 1 ESP were executed and completed during the unit outages which commenced in November 2022, October 2023 and November 2025, respectively.

The project plan has been updated to incorporate the DHP upgrade scope for the first four units. The contract has been awarded, with execution scheduled between September 2025 and March 2026. Meanwhile, the procurement process for the remaining two units is at the adjudication stage, with execution targeted for completion before April 2027.

**2. High Frequency Power Supply project (HFPS)**

The objective of this project is to install HFPS at Tutuka Power Station to enhance the performance of ESPs. The scope involves the removal of the 20 conventional transformers and replace them with 20 HFPS units. The HFPS units are installed on the footprint of the existing conventional transformers with the possible exception of the second and fifth field which might get a new platform due to space limitations.

The contract has been awarded and the installation on units 1,4,5 and 6 has been completed. Units 2 and 3 installations are scheduled for March 2026 and September 2025, respectively.

**3. Flue Gas Conditioning Plant (SO<sub>3</sub> plant)**

Flue gas plant is one of the interventions planned to enhance the current performance of the Electrostatic Precipitators (ESPs) at Tutuka Power Station. The flue gas conditioning plant evaluate the feasibility of installing a sulphur injection plant and ammonia injection plant. The aim of installing the mentioned chemicals, is to reduce the particulate emissions at the Power Station by increasing efficiency of the existing ESP.

Unit 6 was used as a test plant and a full roll out is planned. The Environmental Authorization was issued in May 2023. The procurement process is underway. Based on the pilot test

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findings, the focus has shifted to using only sulphur, transitioning from dual Flue Gas Conditioning to a single-chemical approach. Execution is scheduled between March 2026 and April 2029

### 4. Low NOx Burner (LNB)

The contract for the first three units is currently under evaluation and is expected to be awarded by July 2025, with project completion anticipated in the 2027 financial year. The second contract, covering the remaining three units, is scheduled for award by September 2025. Installation of Unit 5 is planned for January 2028, while Unit 6 is set for January 2026. Meanwhile, Unit 1 is expected to be completed before April 1, 2029.

### (d) GREENHOUSE GAS EMISSIONS ANNUAL REPORT IN LINE WITH THE NATIONAL GREENHOUSE GAS EMISSION REPORTING REGULATIONS.

MONTH	N <sub>2</sub> O (Tons)	CH <sub>4</sub> (Tons)
April 2024	2.59	3.63
May 2024	3.22	4.51
June 2024	3.02	4.22
July 2024	5.60	7.85
Aug. 2024	5.53	7.74
Sept. 2024	4.32	6.05
Oct. 2024	5.26	7.37
Nov. 2024	3.31	4.63
Dec. 2024	2.02	2.83
Jan. 2025	3.24	4.54
Feb. 2025	4.56	6.38
Mar. 2025	5.98	8.37
<b>TOTAL</b>	<b>48.65</b>	<b>68.11</b>

Table 2: Greenhouse gasses

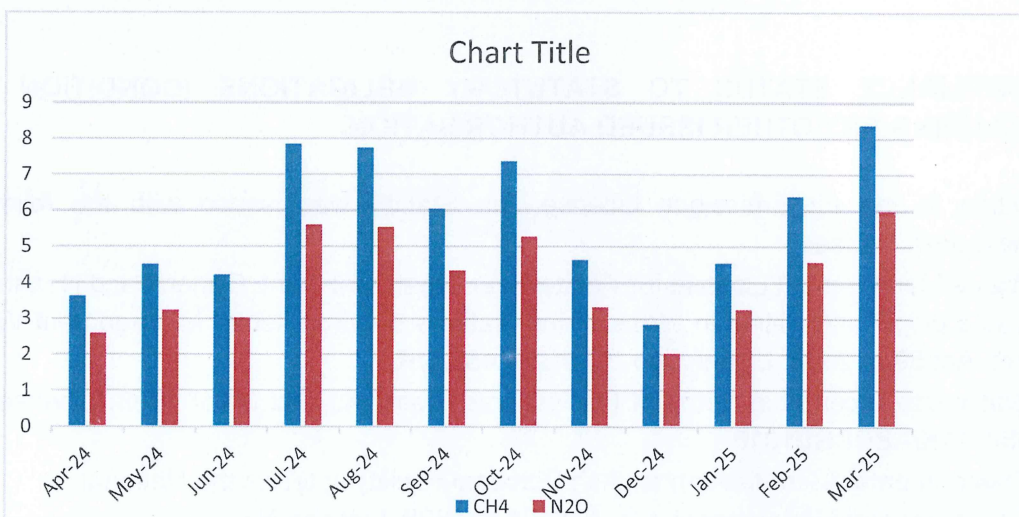


Figure 3: Methane and Di-Nitrogen Oxide trends

**(e) ACTION TAKEN TO ADDRESS COMPLAINS RECEIVED**

There were no complaints received during this financial year. This could be attributed to the location of the Power Station, which is about 20 kilometres away from Standerton residential area and about 5 kilometres from Thuthukani township (Eskom residents)

**(f) ANNUAL REPORT ON IMPLEMENTATION OF HIGHVELD PRIORITY AIR QUALITY PLAN AND OFFSET PROGRAM/ PROJECTS**

The success of the air quality offsetting regime is fundamentally reliant on the strategic planning, rigorous monitoring, and thorough verification of its interventions. To ensure the effectiveness of these processes, three contracts have been awarded to Planning, Monitoring, and Verification (PMV) contractors. SRK has been awarded a contract to support PMV services in Sivukile as part of Phase 2.

The primary objective of these PMV contractors is to facilitate the structured planning of offset interventions to mitigate implementation risks, enhance both practical and scientific understanding, and continuously refine monitoring, reporting, and verification processes. By ensuring that interventions are effectively designed and evaluated, these contractors play a critical role in strengthening the overall impact and sustainability of the air quality offsetting initiative.

The Phase 2 Air Quality Offsets Implementation Plan outlines the strategy for executing the program between April 2025 and March 2030 and possibly beyond, aimed at enhancing ambient air quality in communities neighbouring Eskom's coal-fired power stations. The Sivukile (Tutuka) project, which involves 1,160 houses, has not yet begun due to a dispute between the employer and the service provider. However, the dispute was resolved on February 24, 2025, and the tender will be re-issued at a later date.

**(g) COMPLIANCE STATUS TO STATUTORY OBLIGATIONS (CONDITION 4.5) INCLUDING ANY OTHER ISSUED AUTHORISATION.**

In addition to the Air Emissions License, the Station was issued with the following authorisations/Licenses.

- Waste Management License for Wastewater Treatment plant, General and Hazardous waste disposal facilities in terms of the National Environmental Management Waste Act, Act 59 of 2008: License no. 12/9/11/L456/6/R1
- Water Use License in terms of the National Water Act, Act 36 of 1998: License No. 08/C11K/ABCFG/1016
- Environmental Authorisation for Ash Disposal Facility in terms the National Environmental Management Act, Act 108 of 1998: License No. DEA/EIA/0001416/2012

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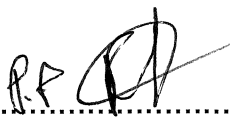
The Station also complies with relevant Municipal By-Laws and the provisions of the National Environmental Management Act (NEMA) & its Specific Environmental Management Act, Relevant regulations, and Standards.

### 3. CONCLUSION

Tutuka Power Station endeavours to comply with all its environmental obligations, this is evident by initiatives the station has embarked on to upgrade its Air Abatement equipment to effectively reduce its emissions. Furthermore, the Station complies with a number of environmental legislations in addition to the National Environmental Management Air Quality Act which governs the emissions.

For more information or enquiries contact the Tutuka environmental team.

Yours Sincerely

<b>Compiled by:</b> Xoli Jila  <b>SENIOR ADVISOR ENVIRONMENTAL</b>  <b>Signature:</b>  <b>Date:</b> 29 May 2025	<b>Supported By:</b> Mike Molepo  <b>SENIOR CHEMIST: BOILER ENGINEERING</b>  <b>Signature:</b>  <b>Date :</b> 29 May 2025
<b>Approved by:</b> Bruce Moyo  <b>GENERAL MANAGER: TUTUKA POWER STATION</b>  <b>Signature:</b>  <b>Date :</b> 29/05/2025	