

Mr Dan Hlanyane  
 Gert Sibande District Municipality  
 PO BOX 1745  
 ERMELO  
 2350

Date:  
 31 May 2022

Enquiries:  
 Nomasonto Nsibande  
 Tel +2717 779 8995  
 Ref: GVL/0474

Dear Mr Hlanyane

### GROOTVLEI POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2021/22

This serves as the annual report required in terms of Section 7.6.3 of Grootvlei Power Station's Atmospheric Emission Licence, as well as in terms of the reporting requirements listed in the Minimum Emission Standards. The emissions are for Eskom's 2021/22 financial year, which is from 1 April 2021 to 31 March 2022. Verified emissions of particulates matter (PM), as measured by installed monitors and SO<sub>2</sub> and NO<sub>x</sub> (as NO<sub>2</sub>), as measured by the installed continuous Emissions Monitoring Systems) CEMS calculation, are also included. The Report also accounts for tests conducted and state of calibrations conducted for the financial year 2021/22.

Name of facility	Eskom Holdings SOC Limited, Grootvlei Power Station
Description of facility	Grootvlei Power Station
Reference number of plant	<i>Dipaleseng/Eskom H SOC Ltd GPS/0015/2019/F03</i>

### Emission Trends

The emissions in the table below are that of the 2021/2022 financial year

		Coal-fired emissions (tons/annum)	Fuel-oil emissions (tons/annum)	Total (tons/annum)
Grootvlei Station	Power	PM: 257	PM: N/A	PM: 257
		SO <sub>2</sub> : 18285	SO <sub>2</sub> : 2308.9	SO <sub>2</sub> : 20593.9
		NO <sub>x</sub> : 10616	NO <sub>x</sub> : N/A	NO <sub>x</sub> : 10616

Table 1. General overview of emissions at Grootvlei Power Station 2021/2022

## GROOTVLEI POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2021/22

Please note: Gaseous emissions, in particular, are largely dependent on the power generated by the Power Station, and thus the amount of coal burnt.

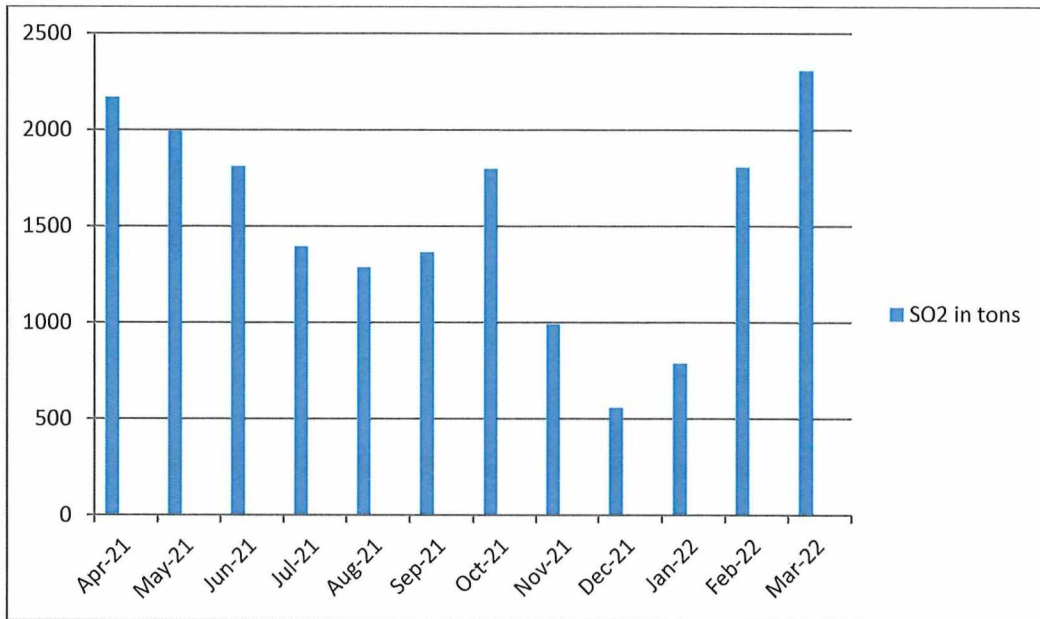


Figure 2. Monthly SO<sub>2</sub> Emissions in tons from Grootvlei Power Station 2021/2022

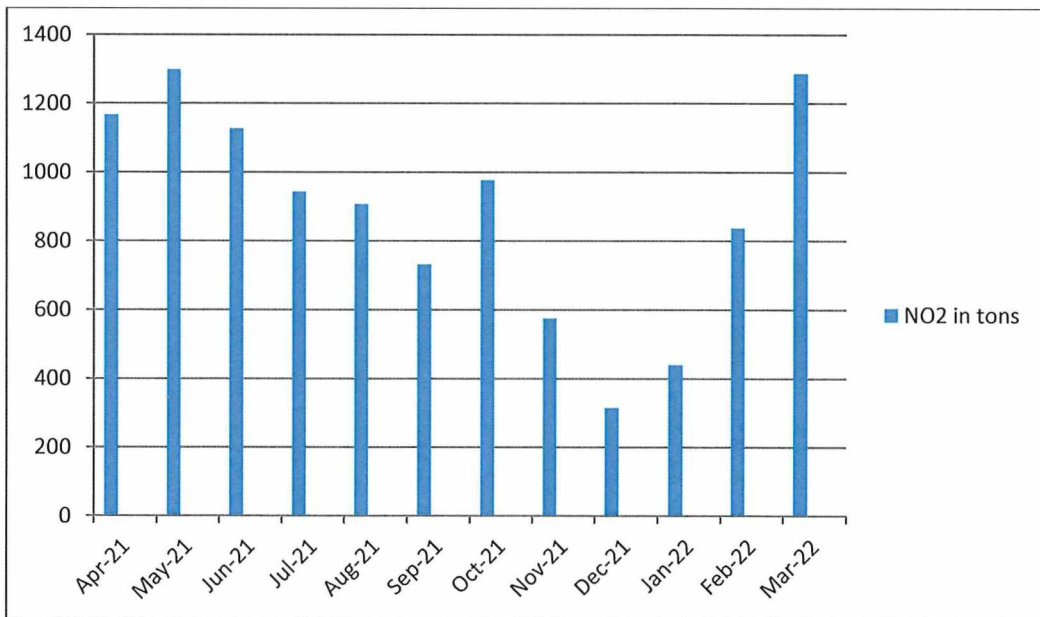


Figure 3. Monthly NO<sub>2</sub> Emissions in tons from Grootvlei Power Station 2021/22

**GROOTVLEI POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2021/22**

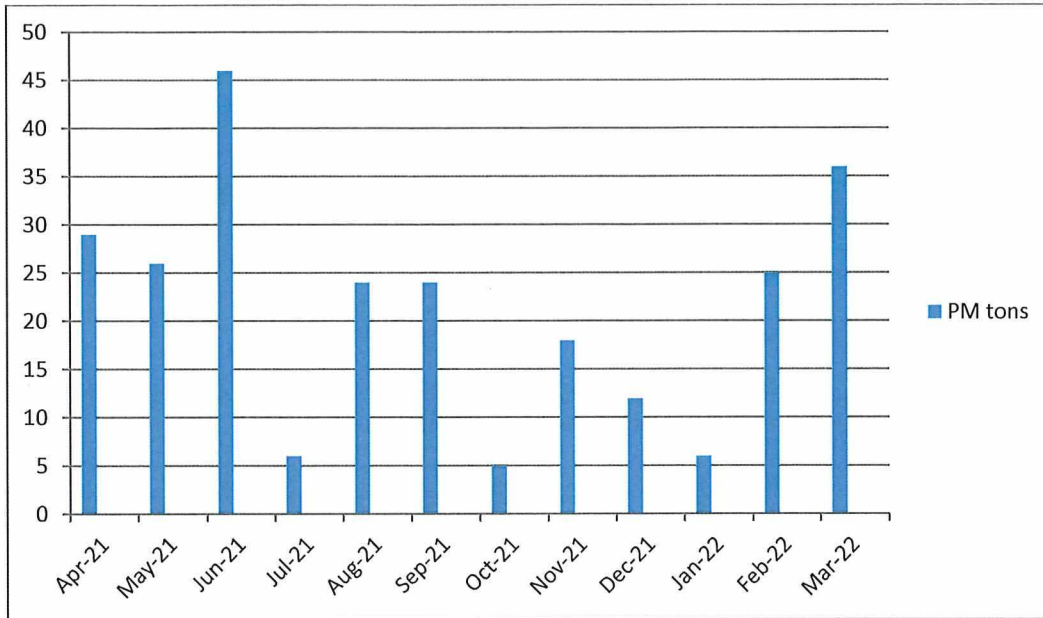


Figure 4. Monthly Energy sent out in GWh at Grootvlei Power Station 2020/21

**Monitoring Data Availability**

Table 2 General oversight of monitoring data availability for Grootvlei Power Station 2021/22 in terms of the number of full hours per annum that valid results were obtained for the CEMS in question.

	<b>North Stack</b>	<b>South Stack</b>
PM	8664	N/A
SO <sub>2</sub>	8664	N/A
NOx	8664	N/A

**Complaints Received**

No complaint was received during the 2021/22 reporting period.

**Compliance Audit Report(s)**

A SHE legal audit was conducted at Grootvlei Power Station on 10-11 May 2022. Report pending and shall be submitted once finalized.

**Major Upgrades Projects**

No major upgrade was undertaken, however only three units are on load Unit 1, 2 and 3.

**Greenhouse Gas Emissions**

Greenhouse Gas Emissions in terms of CO<sub>2</sub> are reported in terms of the Green House Gas Reporting regulations and as advised by the National Air Quality Officer not in the Atmospheric Emission Licence Reports.

**State of the Air Quality Offset project**

An offset plan was developed and piloted at Kwazamokuhle Hendrina. This offset plan covers 2019 to March 2025. It is envisioned that Grootvlei Power Station should have completed rolling out an

## GROOTVLEI POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2021/22

intervention at one decent sized settlement (at least) by end March 2025 as part of phase II of the project

The preliminary schedule depends on funds made available. Should there be a cut in the allocation of funding to this project, it will translate directly into a delay in this schedule. Authorization was acquired from GSDM. The annual progress report and update plan in respect of offsets was submitted to the GSDM on 31 March 2022.

### Results of spot measurements or correlation tests

Successful with challenges and report is attached - Annexure A1

Table 3. Overview of dates of last conducted CEMS verification tests for PM, SO<sub>2</sub> and NO<sub>x</sub> (Please note that the parallel test reports are attached with this Annual report.

Stack/ Unit	PM	SO <sub>2</sub>	NO <sub>x</sub>
North Stack	23 June 2021	24 November 2021	24 November 2021
South Stack	No Unit Running	No Unit Running	No Unit Running

### An explanation of all instances where minimum emission standards were exceeded:

There was no exceedance during the 2021/22 financial year for Grootvlei Power Station. Also no NEMA section 30 incident incurred.

Table 4. Overview of daily average limit exceedances for 2021/22 Financial Year

Exceedance	Stack/unit and pollutant	Exceedance date [from – to]	Reason for exceedance	Remediation measure and effectiveness
N/A		N/A	N/A	N/A

### NAEIS Reporting

Grootvlei Power Station submitted its annual report on the NAEIS system by the 31 March 2022.

### Ambient Monitoring

Eskom continues to submit monthly ambient monitoring reports as required to the authorities in respect of the Grootvlei monitoring station. There were minor incidents of power outages as a result data recovery was good.

### MES Application

In terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEMAQA), all of Eskom's coal and liquid fuel-fired Power Stations are required to meet the Minimum Emission Standards (MES) for existing and new plants contained in GNR 893 22 November 2013 as amended in GNR 1207 on 31 October 2018 ("GNR 1207"), which was promulgated in terms of Section 21 of the NEMAQA. GNR 1207 provides for transitional arrangements in respect of a once off postponement with the compliance of minimum emissions for new plant for five years, not beyond 31 March 2025. A once off suspension for plants being decommissioned by 31 March 2030; the National Air Quality Officer may grant an alternate emission limit or emission load if certain conditions are met.

The application for any of these requests must be submitted by 31 March 2019. A postponement application was issued to Grootvlei in 2015 which is reflected in the station's current AEL, however with the amendment of the MES regulations in October 2018 it is necessary to submit a further application for suspension of the NO<sub>x</sub> and SO<sub>2</sub> limits. Eskom has applied and received a condonation for the late submission of an application for Grootvlei until November 2019 and an initial application was made by that date. An update of the November 2019 application with some revised information

## **GROOTVLEI POWER STATION'S ANNUAL EMISSIONS REPORT FOR FY 2021/22**

(in particular an updated Atmospheric Impact Report) as Eskom committed to in the November 2019 application is being prepared and will be made available for public participation in July 2020. The final MES suspension application to the authorities was submitted in August 2020 and as result the MES for the existing plant is extended till the postponement application is finalized

### **Grootvlei Status of Compliance**

Grootvlei Power Station has and continues to meet its legal obligations in terms of condition 4.5 of the License. Through excises like Reviews, internal and external audits this has been confirmed that our compliance obligations against, Water Use License, Atmospheric Emissions license, Waste Permit, and Environmental Authorization (Return to Service - ROD) is satisfactory. Howe ever there were challenges for the Fugitive dust monitoring reporting. Three requests for quotations were unsuccessful because of suppliers not responding. Eventually a purchase order was awarded to Elefantus and coal Analytics trading on 18 May 2022. Although our dust suppression activities continued as per Fugitive Dust Management Plan approved by GSDM. No fugitive dust report was submitted between October 2021 and May 2022.

The rest of the information demonstrating compliance with the emission licence conditions is supplied in the monthly emission reports sent to your office on monthly basis.

Yours sincerely



Tshepiso Temo  
**GENERAL MANAGER: GROOTVLEI**

