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Date:  
 23 December 2020

Enquiries:  
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Ref: NDM/AEL/MP312/11/07

Dear Mr Mofore

### **DUVHA POWER STATION'S BI-ANNUAL EMISSIONS REPORT FOR FY 2020/21**

This serves as the bi-annual report required in terms of Section 7.2.1 in Duvha Power Station's Atmospheric Emission Licence. The emissions are from 01 April to 30 September 2020. Verified emissions of particulates as measured by installed CEMS and SO<sub>2</sub> and NO<sub>x</sub> (as NO<sub>2</sub>) as calculated, are also included.

#### **Name, description and reference number of plant as specified in the AEL:**

<b>Name of facility</b>	Eskom Holdings SOC Limited
<b>Description of facility</b>	Duvha Power Station
<b>Reference number of plant</b>	NDM/AEL/MP312/11/07

#### **Emission Trends:**

The emissions in the table below are that of the 2020/21 bi-annual period.

Table 1. General oversight of emissions at Duvha Power Station 2019/2020

<b>Power Station</b>	<b>Coal-fired emissions (tons/bi-annum)</b>	<b>Fuel-oil emissions (tons/bi-annum)</b>		<b>Total (tons/bi-annum)</b>
		FO 150	Catlight	
<b>Duvha Power Station</b>	<b>PM:</b> 2072.60	<b>PM:</b> 0		<b>PM:</b> 2072.60
	<b>SO<sub>2</sub>:</b> 48 672.00	<b>SO<sub>2</sub>:</b> 1034.36	<b>SO<sub>2</sub>:</b> 2.03	<b>SO<sub>2</sub>:</b> 49 708.39
	<b>NO<sub>x</sub>:</b> 29 826.00	<b>NO<sub>x</sub>:</b> 0		<b>NO<sub>x</sub>:</b> 29 826.00

## DUVHA POWER STATION'S BI-ANNUAL EMISSIONS REPORT FOR FY 2020/2021

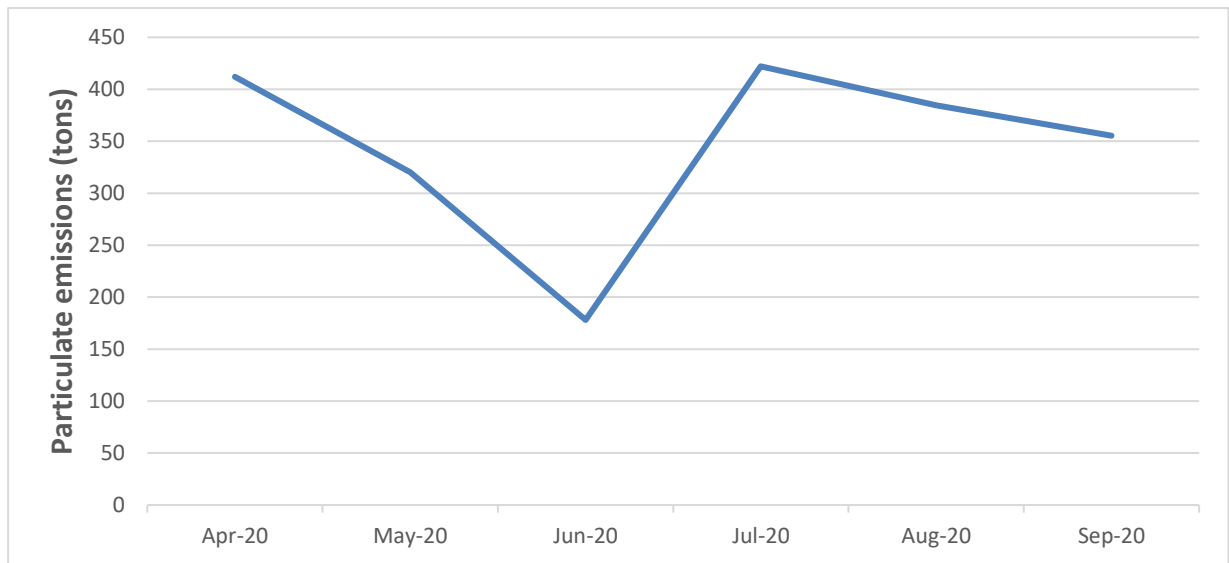


Figure 1. Verified Monthly Particulate Emission in tons from Duvha Power Station April-September 2020.

Please note: Gaseous emissions, in particular, are largely dependent on the power generated by the power station, and thus the amount of coal burnt. The bi-annual calculated emissions figures are still subject to year-end verifications and may change.

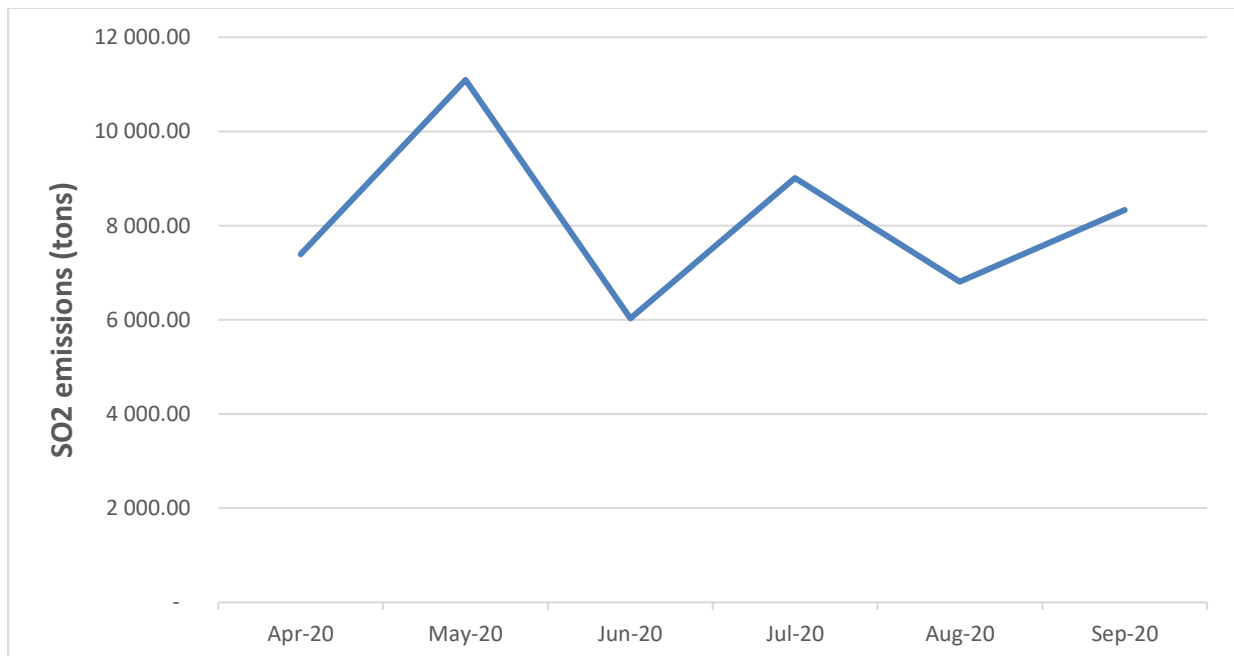


Figure 2. Calculated Monthly SO<sub>2</sub> Emissions in tons from Duvha Power Station April-September 2020.

## DUVHA POWER STATION'S BI-ANNUAL EMISSIONS REPORT FOR FY 2020/2021

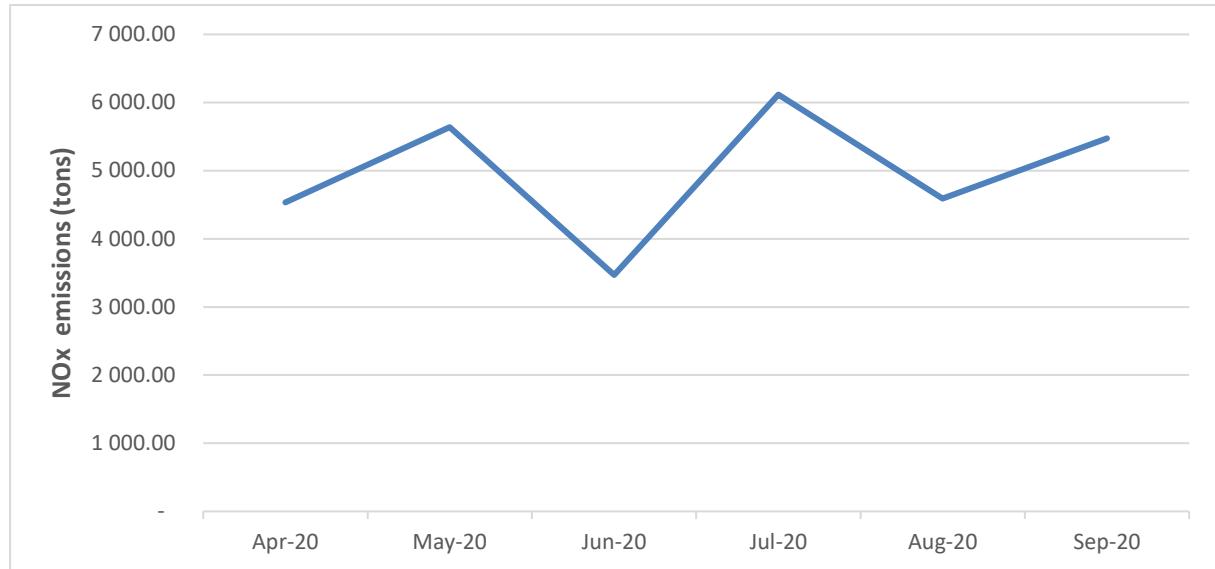


Figure 3. Calculated Monthly NO<sub>2</sub> Emissions in tons for Duvha Power Station April-September 2020.

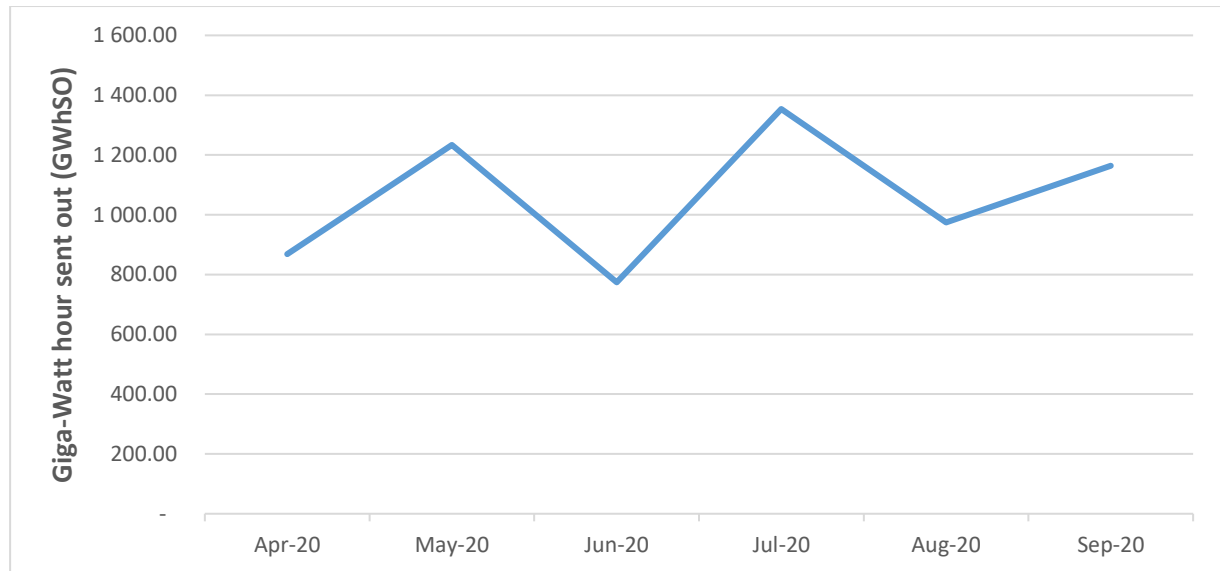


Figure 5. Monthly Energy sent out in GWh at Duvha Power Station April-September 2020.

Figures showing compliance with the daily average emission limits of the respective pollutants have been presented to you in the monthly emission reports sent to your offices.

### Monitoring data availability

Table 2. General oversight of monitoring data availability for Duvha Power Station April-September 2020 in terms of the number of full hours per annum that valid results were obtained for the CEMS in question.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
PM	98.39 %	99.26 %	Unit Offload	99.22 %	97.39 %	98.78 %
SO <sub>2</sub>	98.26 %	95.60 %	Unit Offload	98.56 %	97.95 %	99.50 %
NO <sub>x</sub>	98.29 %	95.64 %	Unit Offload	98.54 %	97.82 %	99.50 %

## **DUVHA POWER STATION'S BI-ANNUAL EMISSIONS REPORT FOR FY 2020/2021 Compliance Audit Report(s):**

There was no compliance audit conducted between April and September 2020.

### **Major upgrades projects:**

A project to install High Frequency Transformers (HFT's) on unit 4 and 6 which are currently using Electrostatic Precipitator (ESP) abatement equipment, is at the procurement stage. This is aimed at reducing PM emissions to ensure compliance to the minimum emissions limits of 2020 (50mg/Nm<sup>3</sup> for all units).

A project to install a spare Sulphur tank has been approved by the Duvha Site Committee and the Engineering Change Process is underway for the design of the new system. The purpose is to increase SO<sub>3</sub> plant reliability and availability.

### **Greenhouse gas emissions:**

Greenhouse gas emissions are reported through the greenhouse gas reporting regulation process and as such are not included in this bi-annual emissions report.

### **Results of spot measurements or correlation tests:**

Table 3. Overview of dates of last conducted CEMS verification tests for PM, SO<sub>2</sub> and NO<sub>x</sub> (Please see annexure 2 for the verification test results)

<b>Stack/ Unit</b>	<b>PM (Correlation tests)</b>	<b>SO<sub>2</sub> (Parallel tests)</b>	<b>NO<sub>x</sub> (Parallel tests)</b>
Unit 1	20-23 April 2020	30-31 May 2020 & 16 July 2020	30-31 May 2020 & 16 July 2020
Unit 2	22-26 July 2019	13-16 July 2020	13-16 July 2020
Unit 4	13-16 February 2019	10-13 September 2019	10-13 September 2019
Unit 5	22-26 October 2018	22-24 May 2020	22-24 May 2020
Unit 6	14-17 October 2019	19-20 June 2020	19-20 June 2020

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

An explanation of all daily instances of exceedances (including the grace periods) of the minimum emissions requirements are included on the monthly emissions reports submitted to your office.

### **NEMA Section 30 Incidents**

Duvha Power Station incurred no Section 30 incidents during the period of April to September 2020. However one instance of Legal Contravention was reported in 04 April 2020 for unit 6. Investigations to identify the root causes and corrective and preventive actions were conducted and the reports are available if required.

## **DUVHA POWER STATION'S BI-ANNUAL EMISSIONS REPORT FOR FY 2020/2021**

### **NAEIS reporting:**


Duvha Power Station will submit its annual report for 2020/2021 on the NAEIS system end of the financial year.

All gaseous (SO<sub>2</sub> and Nox) emissions tonnages figures reported on this bi-annual emissions report and previous annual emissions report are calculated figures.

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

Hoping the above will meet your satisfaction.

Supported by




2020/12/23

T Madonsela

**ENGINEERING MANAGER: DUVHA POWER STATION**

Yours sincerely



24 Dec 2020

S Mashao

**DUVHA POWER STATION: GENERAL MANAGER**