

	Medupi Power Station Monthly Emissions Report	Template Identifier	240-43921804	Rev	7
		Document Identifier	240-88543153	Rev	2
		Effective Date	February 2025		
		Review Date	February 2027		

Stanley Koenaitse

Waterberg District Municipality
Private Bag X1018
Modimole
0510

skoenaite@waterberg.gov.za

Date: 2025/05/21

Enquiries: MF Dikgale

Tel: 014 762 6820

Email: DikgalMF@eskom.co.za

Ref: H16/1/13-AEL/M1/R1 – April 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF APRIL 2025

This document serves as the monthly emissions report required in terms of Section 7.7.1 of Medupi Power Station Provisional Atmospheric Emission License (AEL), H16/1/13-AEL/M1/R1.

This report reflects Unit 1, 2, 3, 5 and 6 gaseous and particulate emissions performance against the AEL limit for the month of April 2025 only.

1. Raw Materials and Products

TABLE 1: QUANTITY OF RAW MATERIALS AND PRODUCTS CONSUMPTION IN APRIL 2025

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – April 2025
	Coal	Tons/month	1 875 000	649 202
	Fuel Oil	Tons/month	20 000	3 884
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of April 2025
	Energy	GWh	3 571.2	1 457.12
	Ash Emitted	Tons/month	not specified	209.2

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Date	Daily Reportable Hours of Operation						Coal usage	Production rate (MW)					
	U1	U2	U3	U4	U5	U6		U1	U2	U3	U4	U5	U6
01-Apr	24.0	24.0	24.0	0.0	24.0	0.0	28082	702	602	661	Off	645	Off
02-Apr	24.0	24.0	24.0	0.0	24.0	0.0	27975	665	610	687	Off	689	Off
03-Apr	24.0	24.0	24.0	0.0	24.0	0.0	29787	791	639	671	Off	633	Off
04-Apr	24.0	24.0	24.0	0.0	24.0	0.0	28773	794	638	683	Off	654	Off
05-Apr	24.0	24.0	24.0	0.0	24.0	0.0	27779	789	618	686	Off	626	Off
06-Apr	24.0	24.0	24.0	0.0	24.0	0.0	28535	757	634	649	Off	630	Off
07-Apr	24.0	24.0	24.0	0.0	24.0	0.0	27779	732	653	638	Off	595	Off
08-Apr	24.0	24.0	24.0	0.0	24.0	0.0	28878	764	657	643	Off	651	Off
09-Apr	24.0	24.0	24.0	0.0	24.0	0.0	28906	671	655	651	Off	670	Off
10-Apr	24.0	24.0	24.0	0.0	24.0	0.0	26796	600	636	620	Off	665	Off
11-Apr	24.0	24.0	24.0	0.0	24.0	0.0	28481	650	656	621	Off	715	Off
12-Apr	24.0	24.0	24.0	0.0	24.0	0.0	22813	394	637	577	Off	556	Off
13-Apr	24.0	24.0	24.0	0.0	24.0	0.0	23814	381	619	639	Off	538	Off
14-Apr	24.0	24.0	24.0	0.0	24.0	0.0	24694	386	689	628	Off	540	Off
15-Apr	24.0	23.8	24.0	0.0	24.0	0.0	24275	392	645	663	Off	540	Off
16-Apr	24.0	0.0	24.0	0.0	24.0	0.0	15640	327	Off	650	Off	540	Off
17-Apr	9.1	0.0	24.0	0.0	24.0	0.0	13274	372	Off	637	Off	479	Off
18-Apr	0.0	0.0	24.0	0.0	24.0	0.0	12434	Off	Off	660	Off	540	Off
19-Apr	0.0	0.0	24.0	0.0	24.0	0.0	11596	Off	Off	581	Off	540	Off
20-Apr	0.0	0.0	24.0	0.0	24.0	0.0	11797	Off	Off	573	Off	520	Off
21-Apr	0.0	0.0	24.0	0.0	24.0	0.0	9081	Off	Off	592	Off	274	Off
22-Apr	0.0	0.0	24.0	0.0	24.0	0.0	8774	Off	Off	637	Off	205	Off
23-Apr	0.0	0.0	24.0	0.0	24.0	0.0	12003	358	Off	600	Off	363	Off
24-Apr	0.0	0.0	24.0	0.0	15.7	0.0	11684	333	435	604	Off	364	Off
25-Apr	0.0	8.4	24.0	0.0	0.0	0.0	16157	492	670	693	Off		Off
26-Apr	7.3	24.0	24.0	0.0	0.0	0.0	22860	613	584	655	Off	338	Off
27-Apr	24.0	24.0	24.0	0.0	2.5	0.0	22425	641	568	629	Off	336	Off
28-Apr	24.0	24.0	24.0	0.0	11.1	0.0	24506	597	575	590	Off	538	Off
29-Apr	24.0	24.0	24.0	0.0	24.0	0.0	24589	668	585	645	Off	364	Off
30-Apr	24.0	24.0	24.0	0.0	24.0	0.0	25015	679	572	616	Off	455	Off

NB: Operating hours less than 24 highlighted in pink.

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2. Abatement Technology

TABLE 2: ABATEMENT EQUIPMENT CONTROL TECHNOLOGY EFFICIENCY FOR MONTH OF APRIL 2025

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	99.914%	100%
Unit 2	Fabric Filter Plant (FFP)	99.920%	100%
Unit 3	Fabric Filter Plant (FFP)	99.908%	100%
Unit 4	Fabric Filter Plant (FFP)	Off	Off
Unit 5	Fabric Filter Plant (FFP)	99.853%	100%
Unit 6	Fabric Filter Plant (FFP)	Off	Off

Note: FFP does not have bypass mode operation, hence plant 100% Utilised.

3. Energy Source Characteristics

TABLE 3: ENERGY SOURCE MATERIAL CHARACTERISTICS FOR THE MONTH OF APRIL 2025

Characteristic	Stipulated Range (% by weight on a dry basis)	Monthly Average Content (% by weight on a dry basis)
Coal		
Sulphur Content	1.3 - 2.2	1.3
Ash Content	35 - 39	35.2

TABLE 4: ENERGY SOURCE MATERIAL CHARACTERISTICS FOR THE MONTH OF APRIL 2025

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.400
Ash Content	0.02 - 0.1	0.020

4. Emissions Reporting

Medupi Power Station uses Continuous Emission Monitoring System which uses the extractive method for analysis.

The emission limits are as follows:

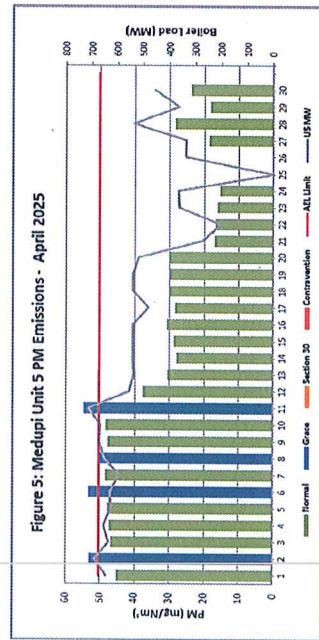
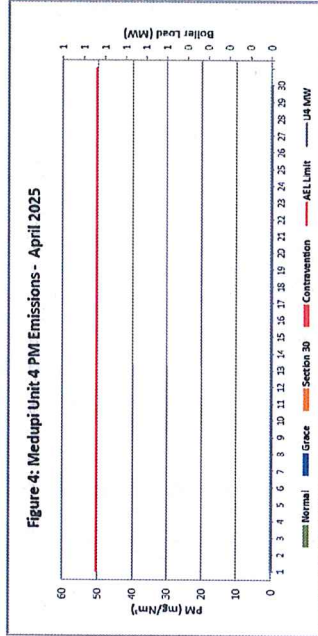
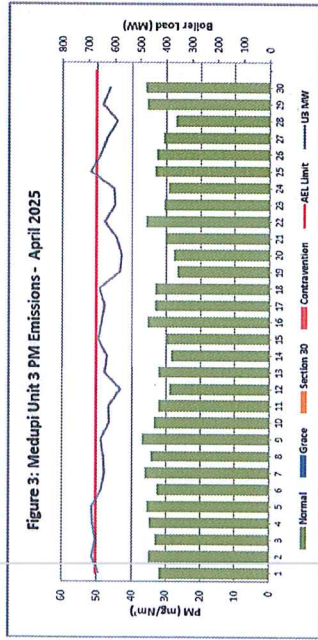
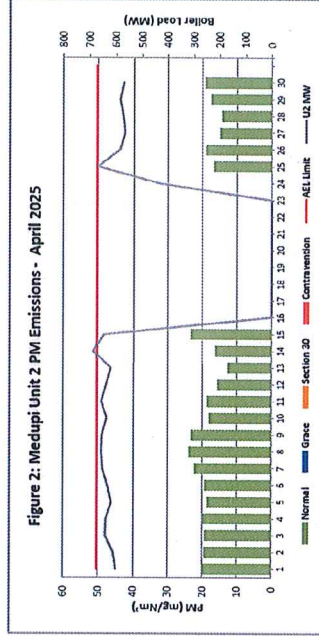
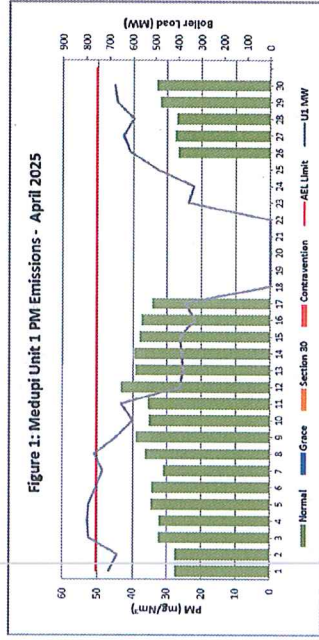
SO₂ Monthly = 3500 mg/Nm³

Dust Daily= 50 mg/Nm³

NO₂ Daily= 750 mg/Nm³

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4.1 PM Daily Averages

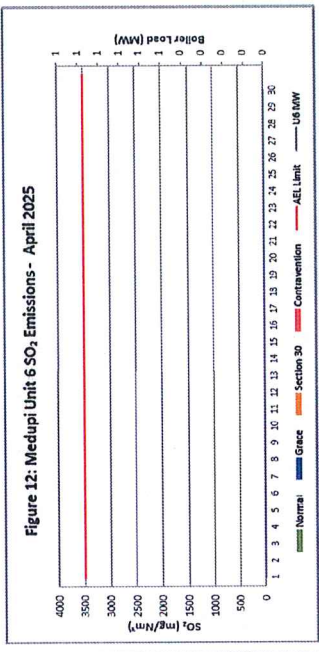
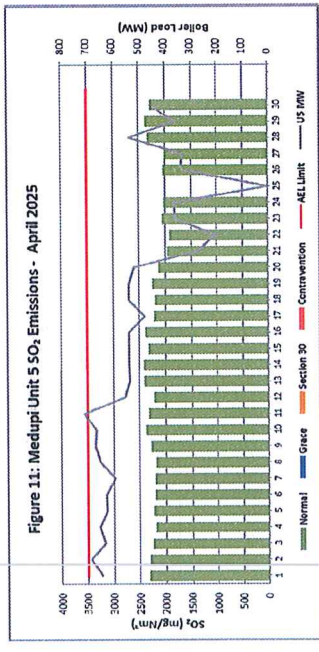
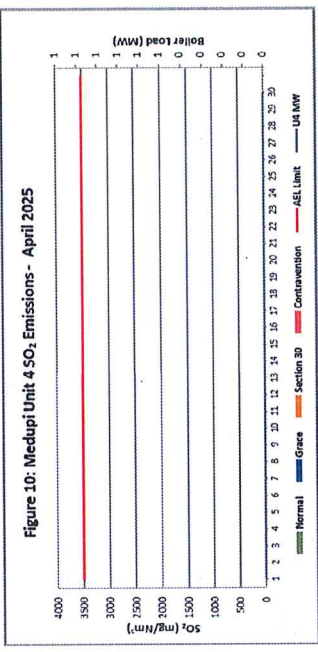
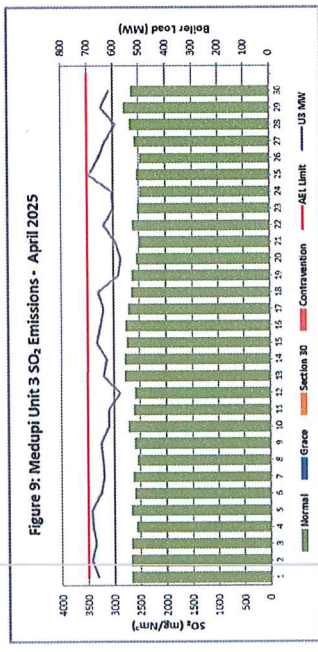
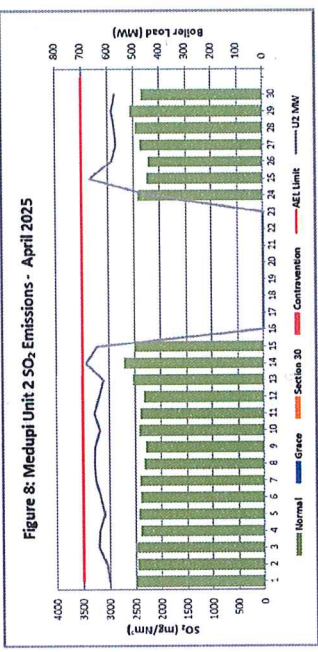
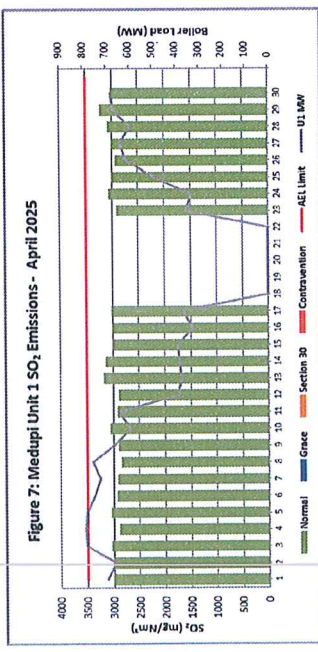




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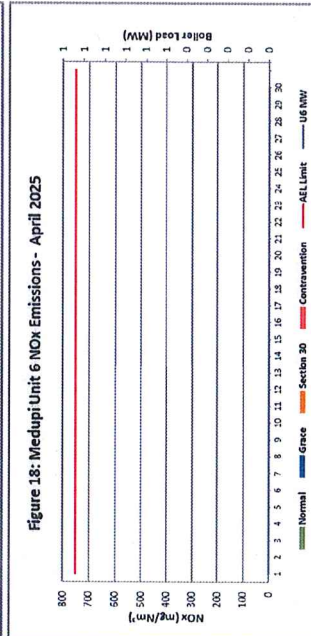
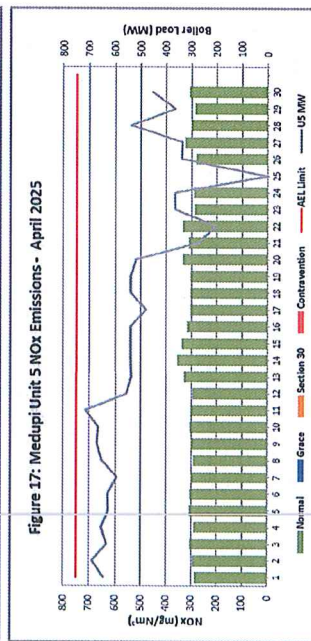
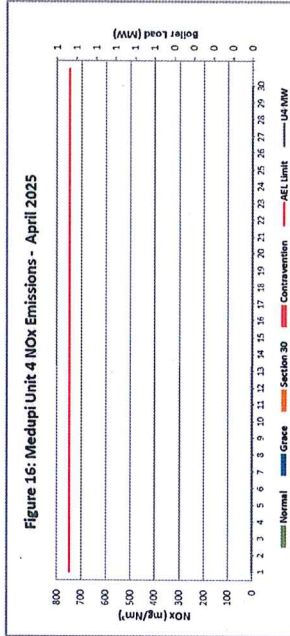
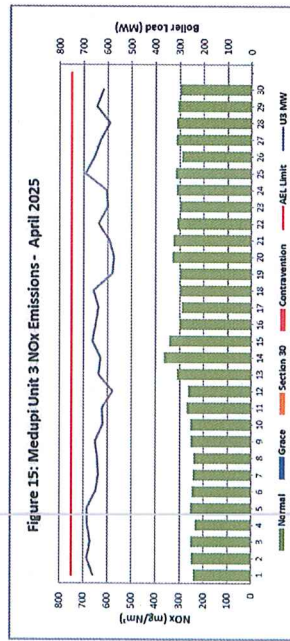
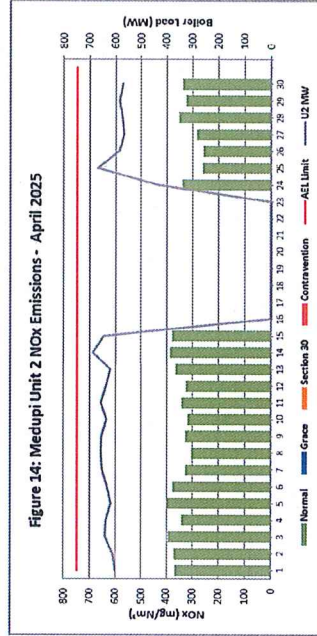
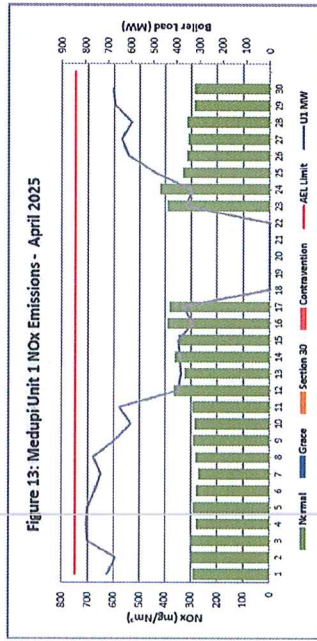
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4.2SO₂ Daily Averages



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4.3 NOx Daily Averages



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TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF APRIL 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	40.1	3 814.4	385.5
Unit 2	37.1	4 985.7	701.0
Unit 3	61.4	4 984.2	542.9
Unit 4	Off	Off	Off
Unit 5	70.6	4 388.6	597.7
Unit 6	Off	Off	Off
SUM (Tons)	209.2	18 172.9	2 227.1

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF APRIL 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NO _x (mg/Nm ³)
Unit 1	33.8	3 000.2	319.3
Unit 2	18.8	2 419.6	340.2
Unit 3	32.5	2 639.5	287.9
Unit 4	Off	Off	Off
Unit 5	34.7	2 221.4	306.7
Unit 6	Off	Off	Off

5. Continuous Emission Monitoring Systems (CEMS)

Unit 1, 2, 3, 5 and 6 Continuous Emission Monitoring Systems were always in operation when the unit was on load.

TABLE 7: PERIODS DURING WHICH CEMS WAS INOPERATIVE/MALFUNCTIONING

Date	CEMS status	Comments
		No issues

TABLE 8: CEMS MONITOR RELIABILITY PERCENTAGE (%)

Associated Unit/Stack	PM	SO ₂	NO ₂	O ₂
Unit 1	100.0	100.0	99.8	99.8
Unit 2	100.0	94.8	94.8	90.5
Unit 3	100.0	100.0	99.9	100.0
Unit 4	Off	Off	Off	Off
Unit 5	100.0	99.8	100.0	100.0
Unit 6	Off	Off	Off	Off

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6. CEMS Calibration certificates and equipment used for calibration.

A service provider was appointed to calibrate CEMS equipment at Medupi Power Station, calibration certificates are in place and may be made available upon request. Verification of the CEMS after calibration is conducted internally by Eskom.

7. Ambient Air Quality Monitoring Report

The Ambient Air Quality Monitoring report and Dust Fallout report for the month of April 2025 were submitted in May 2025.

8. Visual inspection of the exterior walls of the fuel oil tanks and TVOC Estimation

Visual inspection was conducted and there were no leaks observed on the exterior walls of the fuel oil tanks.

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TABLE 9: TOTAL VOLATILE ORGANIC COMPOUND (TVOC) FOR APRIL 2025

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Wednesday, 30 April 2025	
Station:	Medupi Power Station	
Province:	Limpopo Province	
Tank no.	1-2	
Description:	Outdoor fuel oil storage tank	
Tank Type:	Vertical fixed roof (vented to atmosphere)	
Material stored:	Fuel Oil 150	
MONTHLY INPUT DATA FOR THE STATION Please only insert relevant monthly data inputs into the <i>blue cells</i> below Choose from a dropdown menu in the <i>green cells</i> The total VOC emissions for the month are in the <i>red cells</i> IMPORTANT: Do not change <i>any</i> other cells without consulting the AQ CoE		
MONTH:	April	
GENERAL INFORMATION:		
	Data	Unit
Total number of fuel oil tanks:	2	NA
Height of tank:*	14.2	m
Diameter of tank:	12	m
Net fuel oil throughput for the month:	3 884	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEOROLOGICAL DATA FOR THE MONTH		
	Data	Unit
Daily average ambient temperature	20.60	°C
Daily maximum ambient temperature	27.37	°C
Daily minimum ambient temperature	13.11	°C
Daily ambient temperature range	10.46	°C
Daily total insolation factor	3.84	kWh/m ² /day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorptance	0.39	NA
FINAL OUTPUT:		
	Result	Unit
Breathing losses:	0.61 kg/month	
Working losses:	0.11 kg/month	
TOTAL LOSSES (Total TVOC Emissions for the month):	0.72 kg/month	
*Calculations performed on this spreadsheet are taken from the USEPA AP-42- Section 7.1 Organic Liquid Storage Tanks - January 1996. This spreadsheet is derived from materials provided by Jimmy Peress, PE, Tritech Consulting Engineers, 85-93 Chevy Chase Street, Jamaica, NY 11432 USA, Tel - 718-454-3920, Fax - 718-454-6330, e-mail - PeressJ@nyc.rr.com.		

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9. Air quality improvements initiatives and public education and awareness campaigns

No awareness campaign was conducted for April 2025.

10. Complaints Register

TABLE 10: COMPLAINTS FOR THE MONTH OF APRIL 2025

Name/ Source Code	Air pollution complaints received	Calculation of Impacts/ emissions associated with the incident	Date of complaint and date of response by the license holder	Results of investigation	Action taken to resolve the complaint
NA	NA	NA	NA	NA	NA

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Compiled By: **Thabo Khoza**
Senior Advisor
Environmental Management

 Date: 23 May 2025

Verified by: **Malose Langa**
System Engineer Boiler

 Date: 26 May 2025

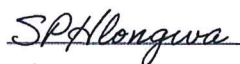
Verified by: **Shu Mpangase**
System Engineer C&I

pp  Date: 26 May 2025

Supported by: **Mokgadi Dikgale**
Environmental Manager

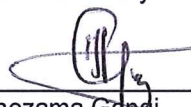
 Date: 02 June 2025

Supported by: **Sithokozile Hlongwa**
Engineering Group Manager
 (Acting)

 Date: 08 June 2025

I Thozama Gangi, declares that the information provided in this report is accurate and correct.

Yours sincerely


 Thozama Gangi
GENERAL MANAGER (Acting): MEDUPI POWER STATION

Date: 10/06/2025

