

	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		

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Date: 2025/12/30

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Ref: H16/1/13-AEL/M1/R1 – Nov 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF NOV 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 1,2,3,4,5, and 6 gaseous and particulate emissions performance against the AEL limit for the month of Nov 2025 only.

1. Raw Materials and Products

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

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – Nov 2025
	Coal	Tons/month	1 875 000	991 015
	Fuel Oil	Tons/month	20 000	1 800
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of Nov 2025
	Energy	GWh	3 571.2	2001.4
	Ash Emitted	Tons/month	not specified	305

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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-Nov	24.0	24.0	0.0	0.0	24.0	24.0	27293	712	518	0	177	495	496
02-Nov	24.0	24.0	0.0	9.3	24.0	24.0	30365	700	498	0	506	525	533
03-Nov	24.0	24.0	0.0	24.0	24.0	24.0	32983	669	628	0	560	588	628
04-Nov	24.0	24.0	0.0	24.0	24.0	24.0	35506	715	513	304	560	570	626
05-Nov	24.0	24.0	17.1	24.0	24.0	24.0	36189	709	479	472	560	540	557
06-Nov	24.0	24.0	24.0	24.0	24.0	24.0	41567	693	683	478	607	700	698
07-Nov	24.0	24.0	24.0	24.0	24.0	24.0	44135	716	729	500	706	757	728
08-Nov	24.0	13.6	24.0	24.0	24.0	24.0	43641	707	592	500	703	760	746
09-Nov	24.0	0.0	24.0	24.0	24.0	24.0	42708	685	570	500	689	754	703
10-Nov	24.0	9.4	24.0	24.0	24.0	24.0	45096	716	744	756	705	794	760
11-Nov	24.0	22.5	24.0	24.0	24.0	24.0	41912	765	574	500	684	743	720
12-Nov	24.0	0.0	24.0	24.0	24.0	24.0	35565	740	0	481	657	746	682
13-Nov	21.3	0.0	24.0	24.0	24.0	20.5	31114	639	0	481	644	517	514
14-Nov	0.0	0.0	24.0	24.0	24.0	0.0	23989	0	0	493	663	681	389
15-Nov	0.0	0.0	24.0	24.0	24.0	0.0	24920	0	0	464	685	686	534
16-Nov	0.0	0.0	24.0	24.0	24.0	19.1	28678	0	106	500	678	753	708
17-Nov	0.0	6.5	24.0	24.0	24.0	24.0	34915	0	761	500	704	742	706
18-Nov	0.0	15.8	16.9	24.0	24.0	24.0	32437	0	526	354	696	791	745
19-Nov	0.0	0.0	0.0	24.0	24.0	24.0	32382	0	582	311	702	709	749
20-Nov	0.0	23.1	17.3	24.0	24.0	24.0	32670	0	620	503	658	637	641
21-Nov	0.0	24.0	24.0	24.0	24.0	24.0	32861	0	724	503	678	725	717
22-Nov	0.0	24.0	24.0	24.0	24.0	24.0	34925	0	616	501	653	624	711
23-Nov	0.0	24.0	24.0	24.0	24.0	24.0	32532	0	745	500	685	640	716
24-Nov	0.0	24.0	24.0	24.0	24.0	24.0	34532	0	745	500	685	640	716
25-Nov	0	24.0	24.0	24.0	24.0	24.0	35646	0	703	500	684	747	736
26-Nov	0	24.0	24.0	1.0	24.0	11.1	24773	0	759	500	15	788	342
27-Nov	0	24.0	24.0	0.0	24.0	0.0	24640	0	793	500	0	779	269
28-Nov	0	19.3	24.0	0.0	24.0	11.3	26475	0	633	500	0	738	580
29-Nov	0	0.0	24.0	0.0	24.0	24.0	22528	0	392	500	0	670	623
30-Nov	0	17.3	24.0	0.0	24.0	24.0	24038	0	583	494	0	659	651

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 NOV 2025

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	99.99%	100%
Unit 2	Fabric Filter Plant (FFP)	99.99%	100%
Unit 3	Fabric Filter Plant (FFP)	99.99%	100%
Unit 4	Fabric Filter Plant (FFP)	99.99%	100%
Unit 5	Fabric Filter Plant (FFP)	99.99%	100%
Unit 6	Fabric Filter Plant (FFP)	99.99%	100%

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 NOV 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	1.26
Ash Content	35 - 39	35.38

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

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.1
Ash Content	0.02 - 0.1	0.030

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

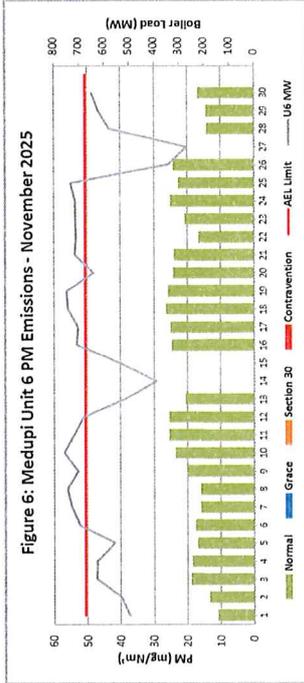
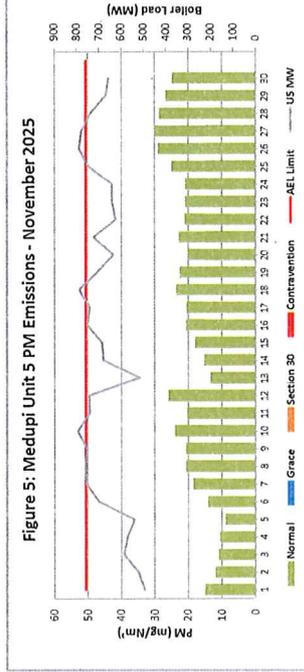
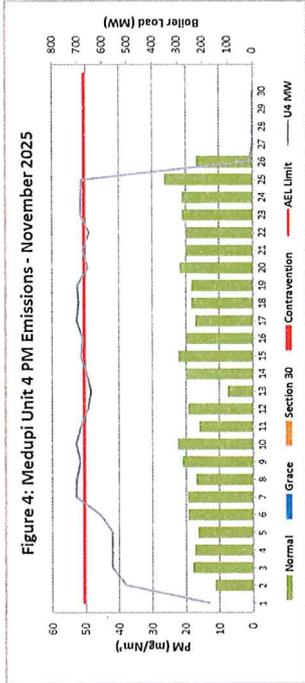
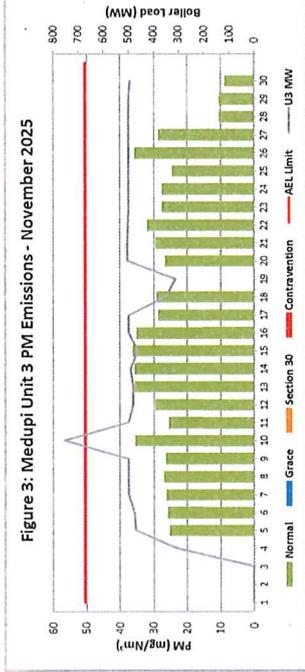
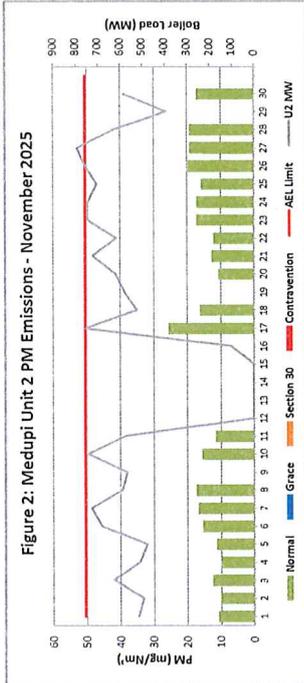
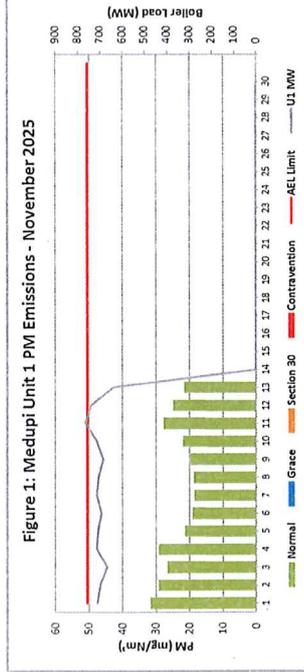
NO₂ Daily= 750 mg/Nm³



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4.1 PM Daily Averages

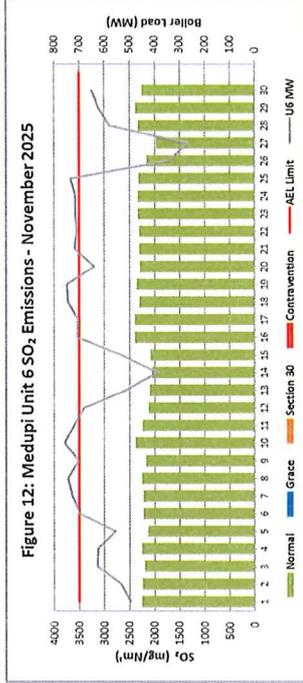
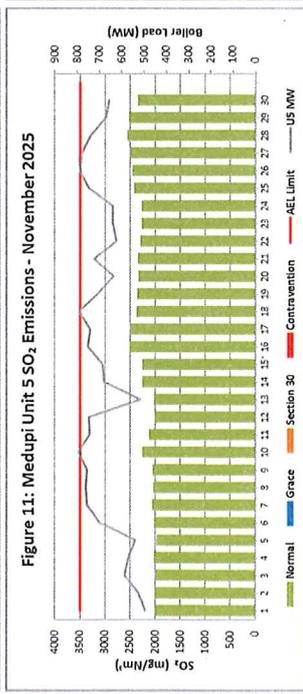
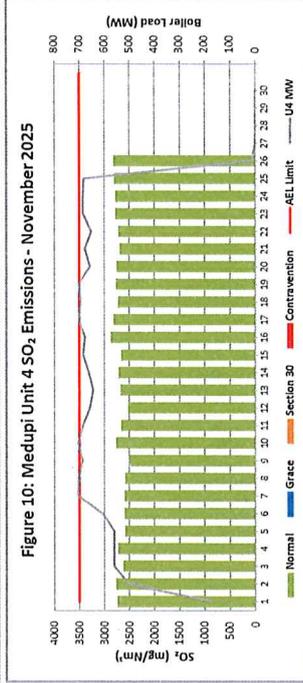
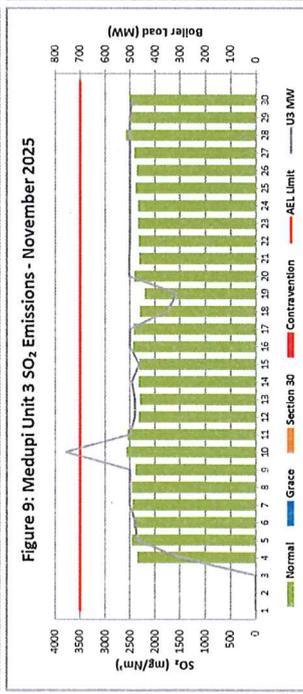
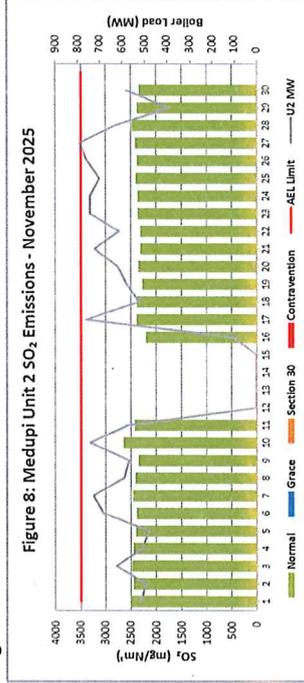
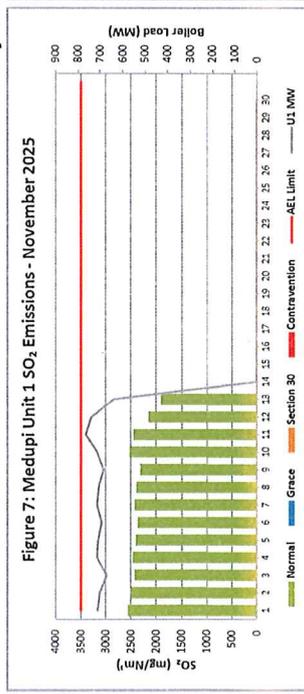




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4.2 SO₂ Daily Averages

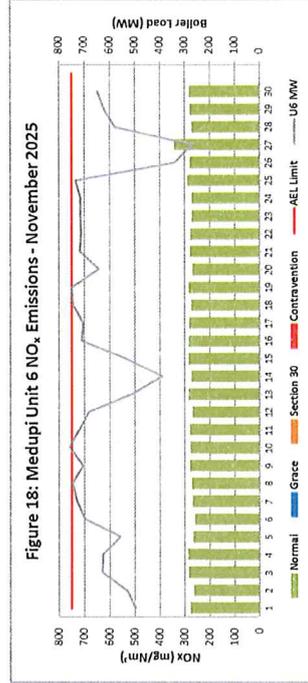
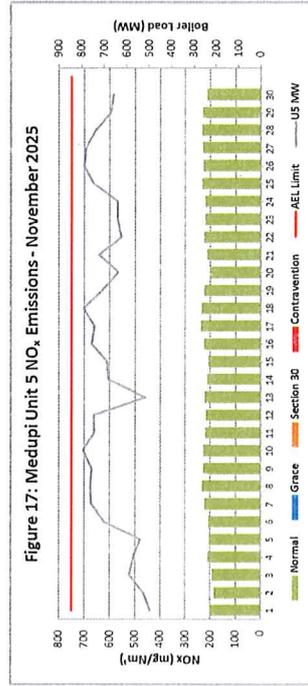
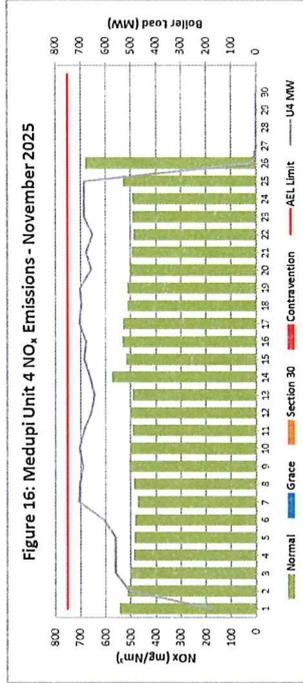
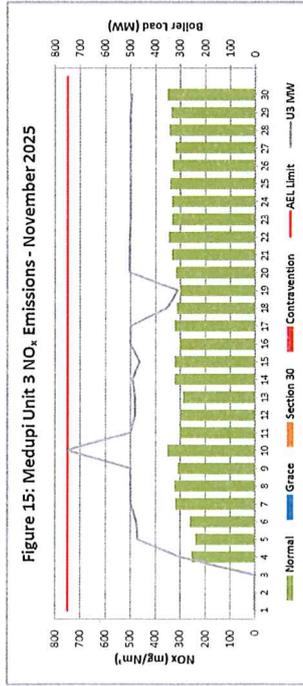
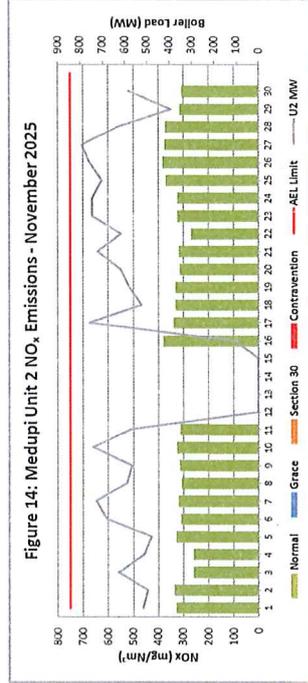
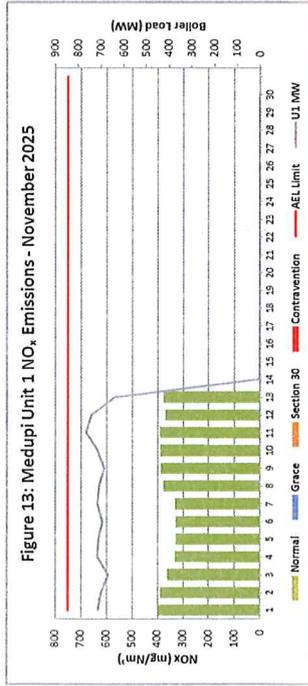




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4.3 NOx Daily Averages



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TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF NOV 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	36.4	3636.4	558.5
Unit 2	27.7	5392.2	729.0
Unit 3	63.6	6032.6	793.9
Unit 4	48.9	7185.8	1345.6
Unit 5	79.1	8590.9	841.7
Unit 6	49.3	5906.0	720.4
SUM (Tons)	305.0	36743.9	4989.2

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF NOV 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NO _x (mg/Nm ³)
Unit 1	23.8	2377.5	366.3
Unit 2	15.3	2392.8	325.5
Unit 3	27.4	2401.0	316.0
Unit 4	18.7	2702.4	513.1
Unit 5	20.2	2239.6	219.4
Unit 6	20.3	2246.6	279.0

5. Continuous Emission Monitoring Systems (CEMS)

Unit 1,2,3,4,5 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

TABLE 8: CEMS MONITOR RELIABILITY PERCENTAGE (%)

Associated Unit/Stack	PM	SO ₂	NO ₂	O ₂
Unit 1	100.0	100.0	100.0	100.0
Unit 2	100.0	100.0	100.0	100.0
Unit 3	100.0	99.8	99.8	99.4
Unit 4	100.0	99.8	99.8	99.8
Unit 5	100.0	99.9	99.2	99.9
Unit 6	100.0	100.0	99.9	99.9

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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 are 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 November 2025 were submitted in December 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 NOV 2025

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Sunday, 30 November 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 blue cells below Choose from a dropdown menu in the green cells The total VOC emissions for the month are in the red cells IMPORTANT: Do not change <u>any</u> other cells without consulting the AQ CoE		
MONTH:	November	
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:	1 800	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEOROLOGICAL DATA FOR THE MONTH	Data	Unit
Daily average ambient temperature	26.22	°C
Daily maximum ambient temperature	32.63	°C
Daily minimum ambient temperature	20.19	°C
Daily ambient temperature range	12.44	°C
Daily total insolation factor	6.14	kWh/m ² /day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorbance	0.39	NA
FINAL OUTPUT:	Result	Unit
Breathing losses:	0.72	kg/month
Working losses:	0.05	kg/month
TOTAL LOSSES (Total TVOC Emissions for the month):	0.77	kg/month
<small>*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.</small>		

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

No awareness campaign was conducted for Nov 2025.

10. Complaints Register

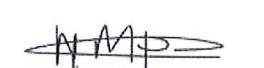
TABLE 10: COMPLAINTS FOR THE MONTH OF NOV 2025

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: 19/12/2025

Verified by: **Malose Langa**
System Engineer Boiler  Date: 2025/12/22

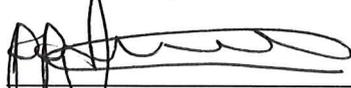
Verified by: **Shu Mpangase**
System Engineer C&I  Date: 2025-12-22

Supported by: **Mokgadi Dikgale**
Environmental Manager  pp Date: 2025/12/22

Supported by: **Sithokozile Hlongwa**
Engineering Group Manager  Date: 2025/12/22

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

Yours sincerely



Thozama Gangi
GENERAL MANAGER: MEDUPI POWER STATION

Date: 2025/12/24