

	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: 2025/08/29

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Ref: H16/1/13-AEL/M1/R1 – July 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF JULY 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 July 2025 only.

1. Raw Materials and Products

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

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – July 2025
	Coal	Tons/month	1 875 000	873 239
	Fuel Oil	Tons/month	20 000	6 262.0
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of July 2025
	Energy	GWh	3 571.2	1817.166
	Ash Emitted	Tons/month	not specified	287.01

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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-July	22.3	24.0	4.8		24.0	24.0	32629	623.0	610.5	508.1		657.5	689.7
02-July		24.0	24.0		24.0	24.0	28370		668.5	499.7		751.4	757.4
03-July		24.0	24.0		24.0	24.0	25026		659.5	472.5		725.8	491.4
04-July		24.0	24.0		24.0	24.0	24616		656.5	478.0		708.1	340.5
05-July		24.0	24.0		24.0	24.0	22315		644.1	450.2		618.9	369.6
06-July		3.7	24.0		24.0	24.0	24374		604.7	466.5	198.0	683.5	348.1
07-July		19.8	24.0		24.0	24.0	25861		667.0	498.1	305.8	678.3	358.8
08-July		24.0	24.0		24.0	24.0	25929	235.1	674.4	491.8		718.9	528.0
09-July	6.4	24.0	24.0		24.0	24.0	28673	368.0	641.7	450.9		664.7	550.0
10-July	24.0	24.0	24.0		24.0	24.0	28121	357.6	616.6	459.2		669.6	474.2
11-July	22.4	24.0	24.0		24.0	24.0	31130	361.2	661.6	477.1	346.1	681.9	550.0
12-July		24.0	24.0	10.5	24.0	24.0	31047		676.0	451.0	575.5	633.6	550.0
13-July		24.0	24.0	24.0	24.0	24.0	29726		594.0	450.9	538.9	643.5	537.0
14-July		24.0	24.0	24.0	24.0	24.0	32260		664.2	579.6	559.3	668.3	520.6
15-July		24.0	24.0	24.0	24.0	24.0	31573		661.5	483.6	574.9	692.5	537.0
16-July		24.0	24.0	0.6	10.0	24.0	25977		677.9	547.2	162.6	571.0	549.9
17-July		24.0	24.0		13.3	24.0	27165		614.1	540.9	492.7	614.1	519.4
18-July		24.0	24.0		24.0	24.0	28746	20.5	598.3	588.1	487.1	645.6	503.7
19-July		24.0	24.0		24.0	24.0	27640	314.6	590.1	487.3	427.2	594.2	466.8
20-July		24.0	24.0		24.0	24.0	22076		533.2	467.4		542.2	467.6
21-July		24.0	24.0		3.4	24.0	24136	280.5	600.4	517.7		491.2	500.1
22-July		24.0	24.0		14.8	24.0	26576	519.7	593.0	516.6		624.0	516.8
23-July		24.0	24.0		24.0	24.0	30687	603.9	586.6	576.1		615.9	517.8
24-July	19.9	24.0	24.0		24.0	24.0	28840	481.0	575.5	495.3		599.6	485.2
25-July	24.0	24.0	24.0		24.0	24.0	31000	574.8	615.9	507.9		613.0	507.8
26-July	24.0	24.0	24.0		24.0	24.0	28624	542.4	545.6	540.4		521.4	475.0
27-July	24.0	24.0	24.0		24.0	24.0	28295	529.8	535.3	486.6		517.7	477.9
28-July	24.0	24.0	24.0		24.0	24.0	32606	563.3	600.6	502.6	432.5	606.0	463.3
29-July	24.0	24.0	24.0	13.2	24.0		30555	553.8	595.8	478.3	550.9	585.0	
30-July	24.0	24.0	24.0	24.0	24.0		31162	587.0	584.9	517.1	589.9	627.3	
31-July	24.0	24.0	24.0	24.0	24.0		27504	484.8	497.8	481.8	537.7	483.5	

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 JULY 2025

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	99.962%	100%
Unit 2	Fabric Filter Plant (FFP)	99.831%	100%
Unit 3	Fabric Filter Plant (FFP)	99.891%	100%
Unit 4	Fabric Filter Plant (FFP)	99.994%	100%
Unit 5	Fabric Filter Plant (FFP)	99.846%	100%
Unit 6	Fabric Filter Plant (FFP)	99.931%	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 JULY 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	35.9

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

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.4
Ash Content	0.02 - 0.1	0.010

4. Emissions Reporting

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

The emission limits are as follows:

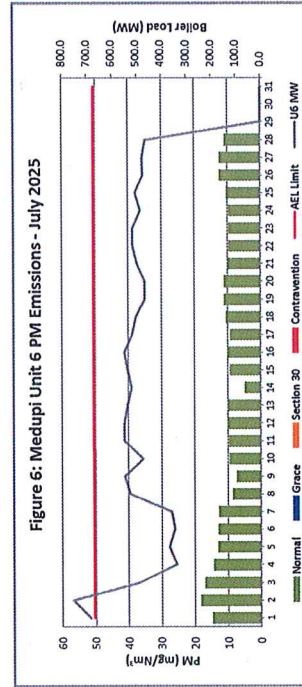
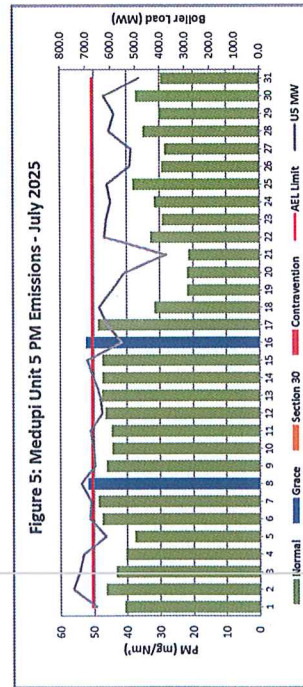
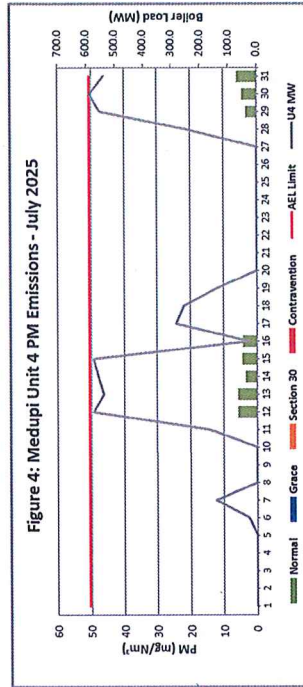
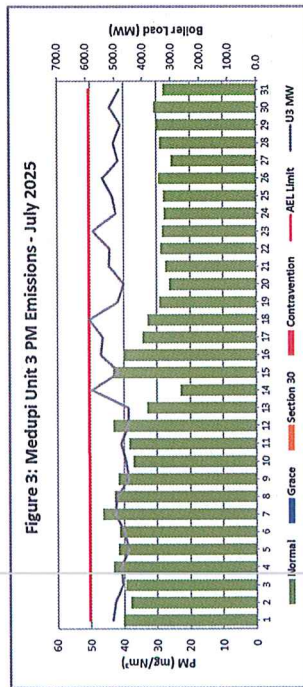
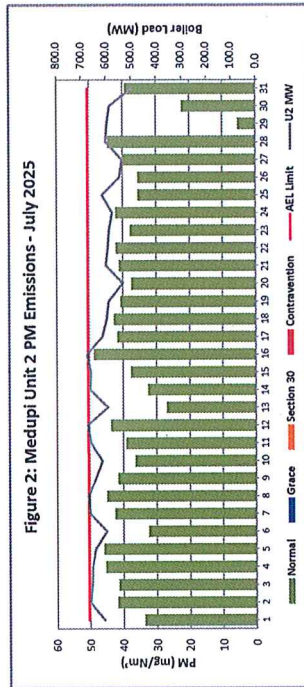
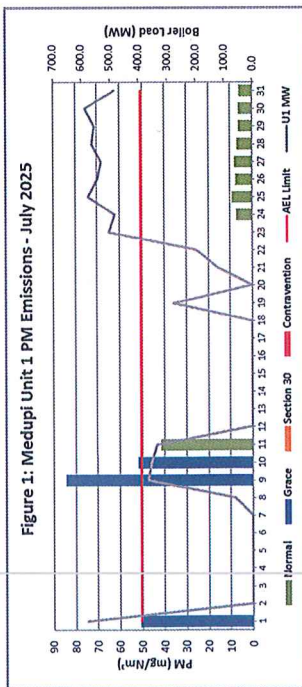
SO₂ Monthly = 3500 mg/Nm³

Dust Daily= 50 mg/Nm³

NO₂ Daily= 750 mg/Nm³

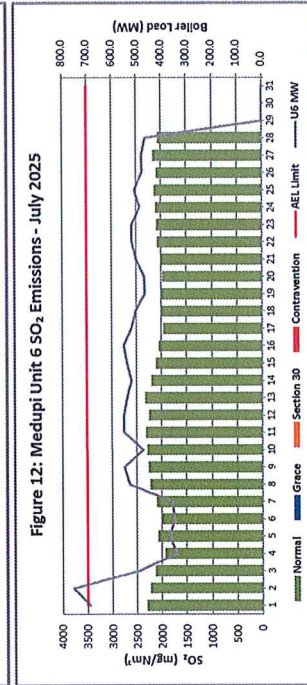
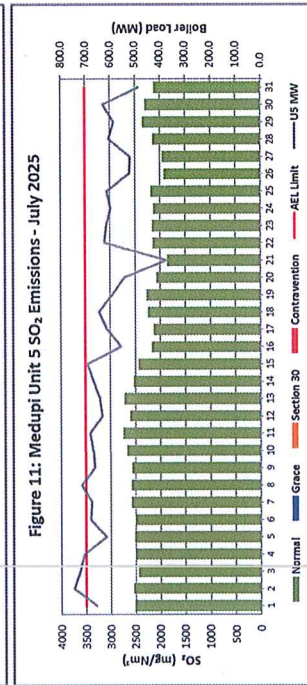
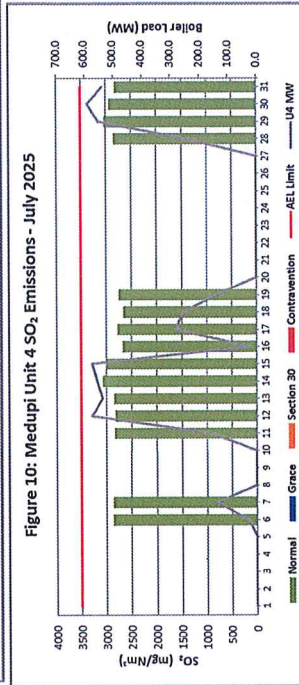
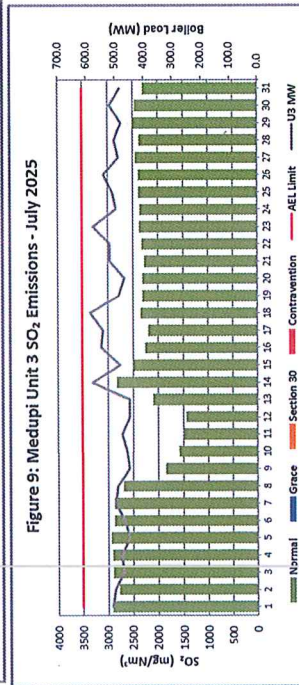
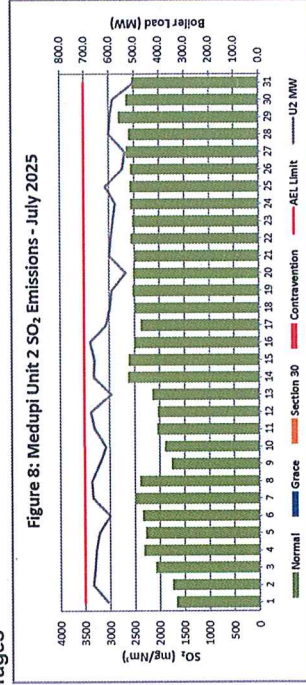
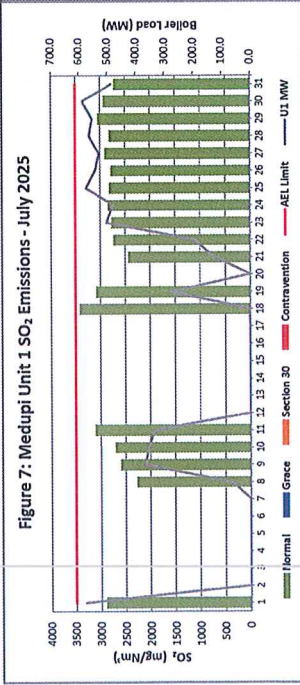
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4.1 PM Daily Averages



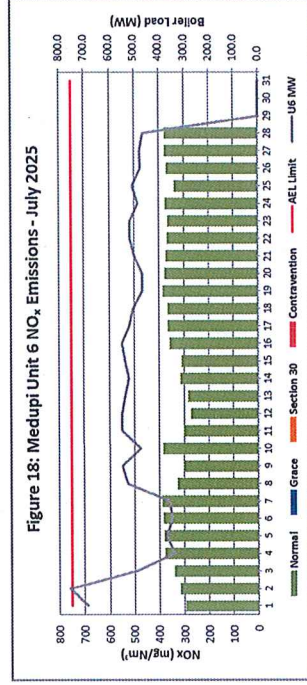
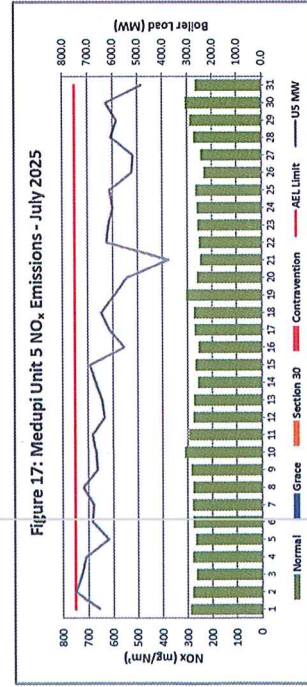
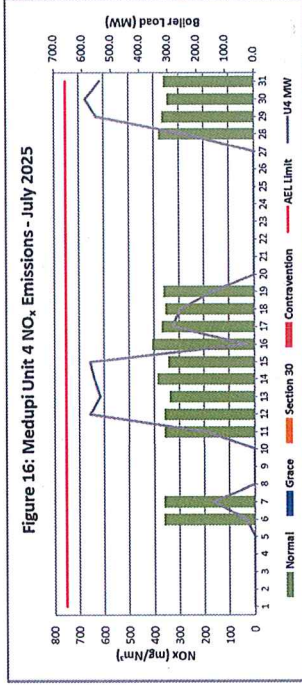
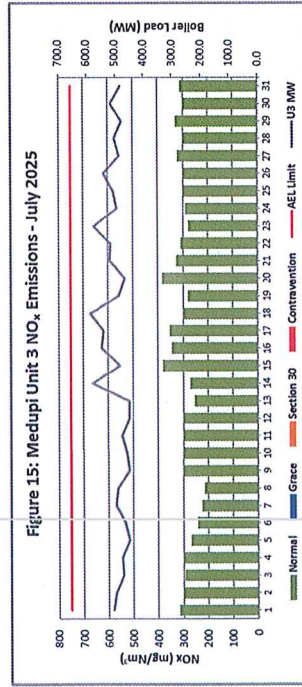
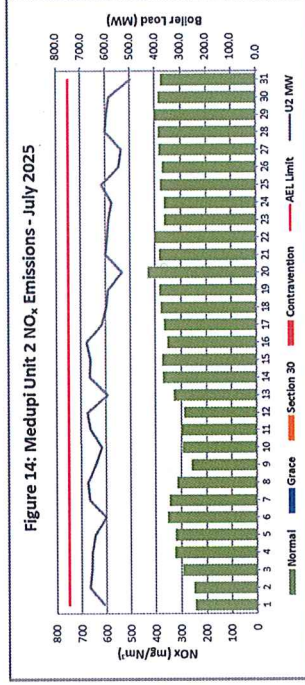
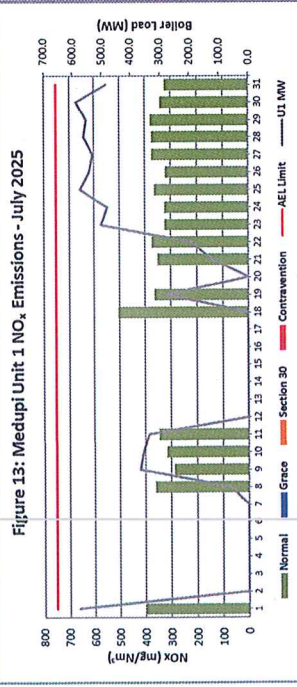
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4.2 SO₂ Daily Averages



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4.3 NOx Daily Averages



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TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF JULY 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	8.6	1 754	214
Unit 2	102.6	6 502	949
Unit 3	54.1	3 885	483
Unit 4	2.4	2 328	287
Unit 5	89.8	5 639	652
Unit 6	29.5	5 659	913
SUM (Tons)	287.01	25 766	3 498

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF JULY 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NO _x (mg/Nm ³)
Unit 1	23.9	2 831.8	357.9
Unit 2	38.2	2 368.0	347.6
Unit 3	34.6	2 396.0	299.5
Unit 4	4.7	2 858.7	363.7
Unit 5	38.8	2 342.4	272.8
Unit 6	11.1	2 125.7	349.0

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
NA	NA	NA

TABLE 8: CEMS MONITOR RELIABILITY PERCENTAGE (%)

Associated Unit/Stack	PM	SO ₂	NO ₂	O ₂
Unit 1	100.0	100.0	98.7	98.4
Unit 2	98.9	100.0	99.7	100.0
Unit 3	82.7	98.0	85.1	99.6
Unit 4	100.0	70.9	70.3	74.5
Unit 5	99.9	98.5	98.5	89.3
Unit 6	100.0	99.9	97.9	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 July 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 July 2025 were submitted in July 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 JULY 2025

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Thursday, 31 July 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 any other cells without consulting the AQ CoE		
MONTH:	July	
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:	6 262	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH		
	Data	Unit
Daily average ambient temperature	17.66	°C
Daily maximum ambient temperature	25.87	°C
Daily minimum ambient temperature	10.47	°C
Daily ambient temperature range	15.40	°C
Daily total insolation factor	3.47	kWh/m ² /day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorbance	0.39	NA
FINAL OUTPUT:		
	Result	Unit
Breathing losses:	0.69 kg/month	
Working losses:	0.18 kg/month	
TOTAL LOSSES (Total TVOC Emissions for the month):	0.87 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 July 2025.

10. Complaints Register

TABLE 10: COMPLAINTS FOR THE MONTH OF JULY 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: 27/08/2025

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



Date: 2025/08/28

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



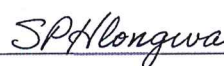
Date: 2025/08/28

Supported by: **Mokgadi Dikgale**
Environmental Manager



Date: 2025/08/28

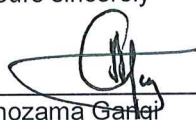
Supported by: **Sithokozile Hlongwa**
Engineering Group Manager



Date: 2025/08/29

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: 2/09/2025