	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: 2025/12/31

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Ref: H16/1/13-AEL/M1/R1 – Dec 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF DEC 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 Dec 2025 only.

1. Raw Materials and Products

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

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – Dec 2025
	Coal	Tons/month	1 875 000	806 490
	Fuel Oil	Tons/month	20 000	1 965
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of Dec 2025
	Energy	GWh	3 571.2	1 536.19
	Ash Emitted	Tons/month	not specified	201.42




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		

Date	Daily Reportable Hours of Operation						Coal usage	Production rate (MW)					
	U1	U2	U3	U4	U5	U6		U1	U2	U3	U4	U5	U6
01-Dec	0.0	24.0	24.0	0.0	24.0	24.0	24208	0	539	496	0	700	587
02-Dec	0.0	24.0	24.0	0.0	24.0	24.0	26243	0	632	500	0	753	574
03-Dec	0.0	24.0	24.0	0.0	24.0	24.0	26194	0	631	511	0	741	609
04-Dec	0.0	24.0	24.0	0.0	24.0	24.0	27838	0	695	567	0	755	658
05-Dec	0.0	24.0	24.0	0.0	24.0	24.0	29100	0	722	580	0	760	692
06-Dec	0.0	24.0	24.0	0.0	24.0	11.0	25345	0	730	572	0	749	360
07-Dec	0.0	24.0	24.0	0.0	24.0	0.0	25307	0	651	527	0	614	539
08-Dec	0.0	8.4	24.0	0.0	24.0	22.9	22095	0	283	560	0	515	617
09-Dec	0.0	6.8	24.0	0.0	24.0	24.0	28257	0	677	585	0	624	695
10-Dec	0.0	1.1	24.0	0.0	24.0	24.0	20736	0	35	614	0	627	626
11-Dec	0.0	0.0	24.0	0.0	24.0	24.0	20483	0	0	640	0	648	621
12-Dec	0.0	0.0	24.0	0.0	24.0	24.0	22658	0	0	721	0	722	704
13-Dec	0.0	0.0	24.0	0.0	24.0	24.0	19454	0	0	737	0	601	411
14-Dec	0.0	0.0	24.0	0.0	24.0	24.0	18398	0	0	721	0	580	373
15-Dec	0.0	0.0	24.0	0.0	24.0	24.0	20382	0	0	589	0	630	715
16-Dec	0.0	0.0	24.0	0.0	24.0	24.0	22784	0	155	660	0	682	584
17-Dec	0.0	7.1	24.0	0.0	24.0	24.0	30497	0	698	683	0	710	644
18-Dec	0.0	24.0	24.0	0.0	24.0	24.0	30127	0	674	711	0	714	712
19-Dec	0.0	24.0	24.0	0.0	7.9	24.0	26419	0	781	738	0	215	748
20-Dec	0.0	24.0	24.0	0.0	0.0	23.3	23181	0	724	687	0	0	647
21-Dec	0.0	24.0	24.0	0.0	0.0	0.5	20849	1	621	566	0	0	646
22-Dec	0.0	24.0	24.0	0.0	0.0	24.0	23978	318	611	614	0	0	642
23-Dec	19.7	24.0	24.0	0.0	0.0	24.0	25640	531	546	537	0	0	695
24-Dec	24.0	24.0	24.0	0.0	0.0	24.0	23902	458	493	472	0	0	697
25-Dec	24.0	24.0	24.0	0.0	0.0	24.0	22504	456	471	464	0	0	684
26-Dec	24.0	24.0	24.0	0.0	0.0	24.0	23975	464	495	496	0	1	674
27-Dec	24.0	24.0	24.0	0.0	0.0	24.0	25545	534	573	516	0	27	689
28-Dec	24.0	24.0	24.0	0.0	0.0	24.0	29134	547	607	574	0	187	707
29-Dec	24.0	24.0	24.0	0.0	11.0	24.0	29495	482	515	499	0	561	607
30-Dec	8.0	24.0	24.0	0.0	24.0	24.0	30356	341	643	614	0	507	521
31-Dec	6.6	24.0	24.0	0.0	20.0	24.0	32342	446	693	676	0	411	650

NB: Operating hours less than 24 highlighted in pink.

	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		

2. Abatement Technology

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

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	99.90%	100%
Unit 2	Fabric Filter Plant (FFP)	99.93%	100%
Unit 3	Fabric Filter Plant (FFP)	99.91%	100%
Unit 4	Fabric Filter Plant (FFP)	Off-line	100%
Unit 5	Fabric Filter Plant (FFP)	99.85%	100%
Unit 6	Fabric Filter Plant (FFP)	99.93%	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 DEC 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	1.46
Ash Content	35 - 39	36.16

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

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.1
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



Medupi Power Station Monthly Emissions Report

Template Identifier	240-43921804	Rev	7
Document Identifier	240-88543153	Rev	2
Effective Date	Dec 2025		
Review Date	Dec 2027		

4.1 PM Daily Averages

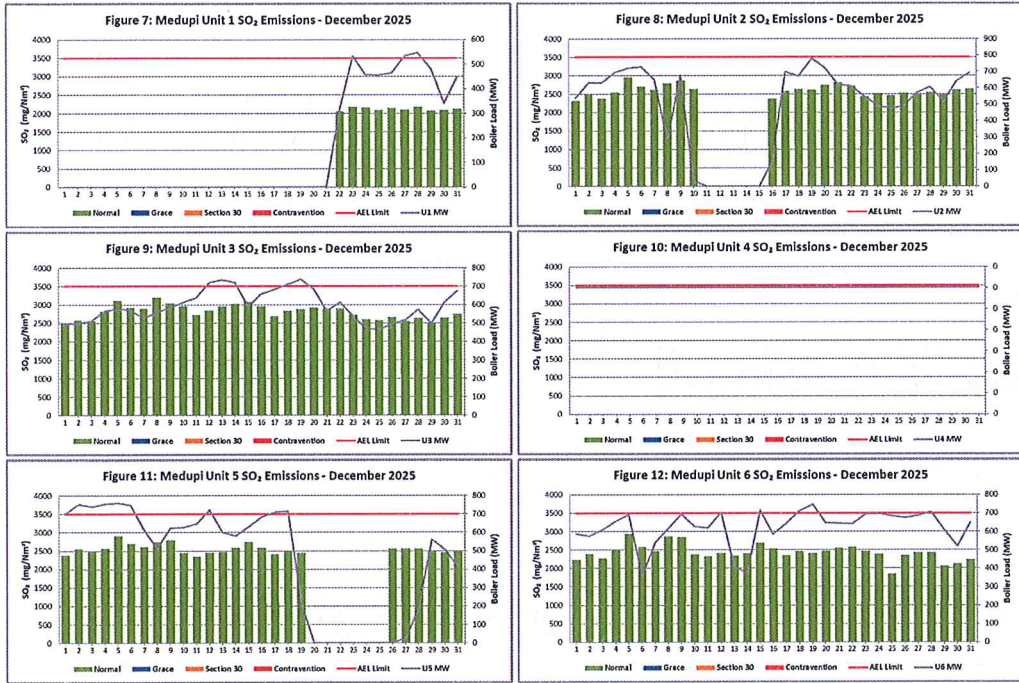




Medupi Power Station Monthly Emissions Report

Template Identifier	240-43921804	Rev	7
Document Identifier	240-88543153	Rev	2
Effective Date	Dec 2025		
Review Date	Dec 2027		

4.2 SO₂ Daily Averages

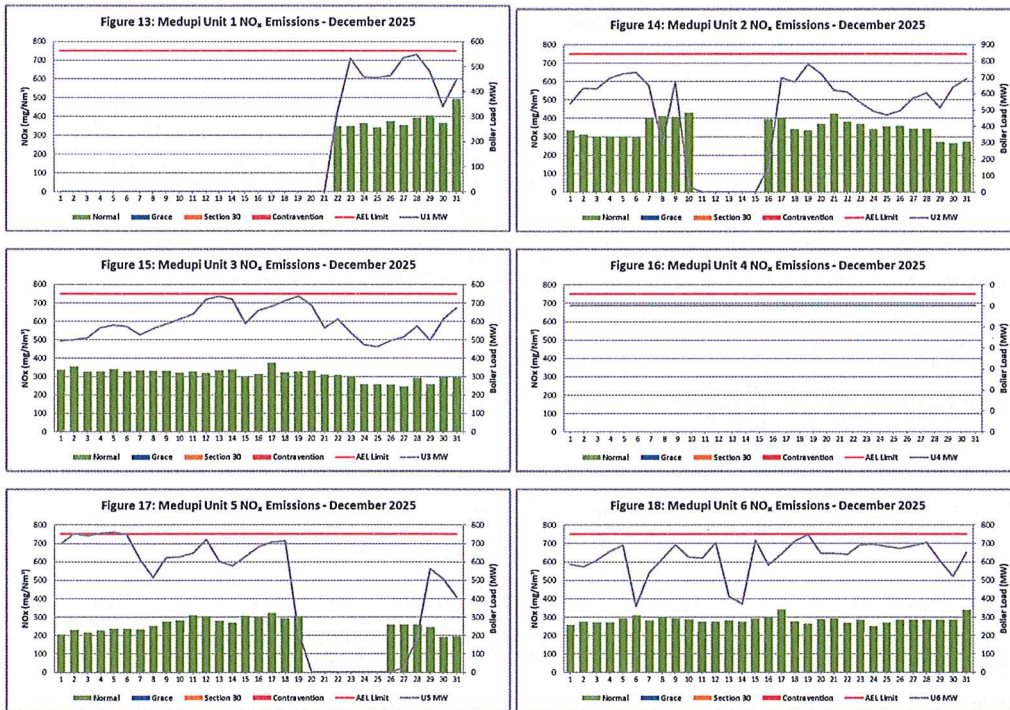




Medupi Power Station Monthly Emissions Report

Template Identifier	240-43921804	Rev	7
Document Identifier	240-88543153	Rev	2
Effective Date	Dec 2025		
Review Date	Dec 2027		

4.3 NO_x Daily Averages




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

TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF DEC 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	0.0	1 983	353
Unit 2	36.6	5 691	743
Unit 3	55.7	9 402	1 053
Unit 4	Off	Off	Off
Unit 5	65.2	6 866	697
Unit 6	43.8	6 317	737
SUM (Tons)	201.42	30 259	3 583

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF DEC 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NOx (mg/Nm ³)
Unit 1	0	2 120.1	378.6
Unit 2	18.0	2 596.0	348.3
Unit 3	16.6	2 805.1	313.4
Unit 4	Off	Off	Off
Unit 5	24.8	2 550.8	260.5
Unit 6	17.6	2 431.1	286.0

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
23-31 December 2025	Faulty Unit 1 CEMS	CEMS reading were restored on 02 January 2026
19 December 2025 to date	Faulty Unit 3 CEMS	Monthly average used for December 2025. The station is still busy with detailed investigation report.


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

TABLE 8: CEMS MONITOR RELIABILITY PERCENTAGE (%)

Associated Unit/Stack	PM	SO ₂	NO ₂	O ₂
Unit 1	0.0	99.8	100.0	99.6
Unit 2	100.0	99.8	99.8	99.8
Unit 3	58.1	100.0	100.0	100.0
Unit 4	Off	Off	Off	Off
Unit 5	100.0	84.7	84.7	84.7
Unit 6	100.0	80.6	78.6	78.9

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 December 2025 were submitted in January 2026.

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.




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

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

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Wednesday, 31 December 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:	December	
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:	1.965	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH	Data	Unit
Daily average ambient temperature	27.35	°C
Daily maximum ambient temperature	33.26	°C
Daily minimum ambient temperature	21.97	°C
Daily ambient temperature range	11.30	°C
Daily total insolation factor	6.12	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:	0.06	kg/month
TOTAL LOSSES (Total TVOC Emissions for the month):	0.75	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, Trittech 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>		

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


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


No awareness campaign was conducted for Dec 2025.


10. Complaints Register

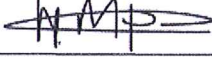
TABLE 10: COMPLAINTS FOR THE MONTH OF DEC 2025


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

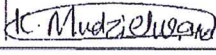
	Medupi Power Station Monthly Emissions Report	Template Identifier	240-43921804	Rev	7
		Document Identifier	240-88543153	Rev	2
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Compiled By: Thabo Khoza
Senior Advisor Environmental Management

Date: 03/01/2026

Verified by: Malose Langa
System Engineer Boiler

Date: 2026/02/03


Verified by: Shu Mpangase
System Engineer C&I

Date: 2026/02/03

Supported by: Mokgadi Dikgale
Environmental Manager

Date: 2026/02/05

Supported by: Khathu Mudzielwana
Engineering Group Manager (Acting)

Date: 2026/02/16

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: 24/02/2026

