

	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: 2025/09/29

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Ref: H16/1/13-AEL/M1/R1 – Aug 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF AUG 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 Aug 2025 only.

1. Raw Materials and Products

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

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – Aug 2025
	Coal	Tons/month	1 875 000	1 049 660
	Fuel Oil	Tons/month	20 000	3 708
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of Aug 2025
	Energy	GWh	3 571.2	2 313.72
	Ash Emitted	Tons/month	not specified	229.17

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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-Aug	24.0	24.0	24.0	24.0	24.0	0.0	31798	573	528	505	591	649	0
02-Aug	24.0	24.0	24.0	24.0	24.0	0.0	35149	696	529	573	643	595	0
03-Aug	24.0	24.0	24.0	24.0	2.2	0.0	27980	488	489	507	521	57	399
04-Aug	24.0	24.0	24.0	10.7	2.8	23.9	31783	539	543	507	301	423	541
05-Aug	24.0	24.0	24.0	5.3	24.0	24.0	39404	651	579	639	603	600	568
06-Aug	24.0	24.0	24.0	24.0	24.0	24.0	42894	715	601	653	667	736	545
07-Aug	24.0	24.0	24.0	24.0	24.0	24.0	42410	718	648	632	676	726	538
08-Aug	24.0	24.0	24.0	24.0	24.0	24.0	43376	753	661	595	679	757	560
09-Aug	24.0	24.0	24.0	6.1	24.0	24.0	34135	614	484	566	136	625	595
10-Aug	24.0	24.0	24.0	0.0	24.0	24.0	36798	589	409	627	551	616	621
11-Aug	24.0	24.0	24.0	23.4	24.0	24.0	39686	705	399	636	641	606	657
12-Aug	24.0	24.0	24.0	24.0	24.0	24.0	38680	671	501	608	626	586	679
13-Aug	24.0	24.0	24.0	24.0	24.0	24.0	39638	704	469	644	663	698	661
14-Aug	24.0	24.0	24.0	24.0	24.0	24.0	40507	671	560	627	659	683	607
15-Aug	24.0	24.0	22.7	24.0	24.0	24.0	38111	572	585	559	668	677	524
16-Aug	22.1	24.0	0.0	24.0	24.0	24.0	31009	415	503	153	686	724	570
17-Aug	0.0	24.0	0.0	22.3	24.0	24.0	27414	289	529	62	439	629	532
18-Aug	0.0	24.0	0.0	0.0	24.0	24.0	31320	599	604	0	348	694	550
19-Aug	23.7	24.0	0.0	16.9	24.0	24.0	31738	747	561	0	583	612	529
20-Aug	24.0	24.0	0.0	24.0	24.0	24.0	29507	671	504	0	530	554	432
21-Aug	24.0	24.0	0.0	24.0	24.0	24.0	29333	634	497	0	514	529	543
22-Aug	24.0	24.0	0.0	24.0	24.0	24.0	27729	471	508	0	537	554	527
23-Aug	24.0	24.0	0.0	24.0	24.0	24.0	31072	559	560	119	520	551	523
24-Aug	24.0	24.0	0.0	24.0	24.0	24.0	30481	482	558	179	502	621	480
25-Aug	24.0	24.0	6.1	24.0	24.0	24.0	32946	663	340	617	572	675	515
26-Aug	24.0	24.0	24.0	24.0	24.0	24.0	32740	587	338	575	571	694	431
27-Aug	24.0	24.0	24.0	24.0	24.0	24.0	35313	725	338	638	639	771	620
28-Aug	24.0	24.0	18.0	24.0	24.0	24.0	34491	637	338	439	630	726	646
29-Aug	24.0	24.0	0.0	9.5	24.0	24.0	28478	684	338	278	253	735	673
30-Aug	24.0	24.0	12.6	0.0	24.0	24.0	25763	655	338	600	0	683	471
31 Aug	24.0	0.0	24.0	0.0	24.0	24.0	27977	631	0	506	173	626	581

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 AUG 2025

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	100%	100%
Unit 2	Fabric Filter Plant (FFP)	100%	100%
Unit 3	Fabric Filter Plant (FFP)	100%	100%
Unit 4	Fabric Filter Plant (FFP)	100%	100%
Unit 5	Fabric Filter Plant (FFP)	100%	100%
Unit 6	Fabric Filter Plant (FFP)	100%	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 AUG 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	1.4
Ash Content	35 - 39	35.3

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

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.2
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

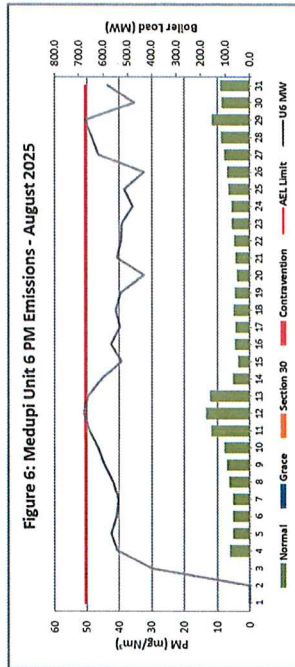
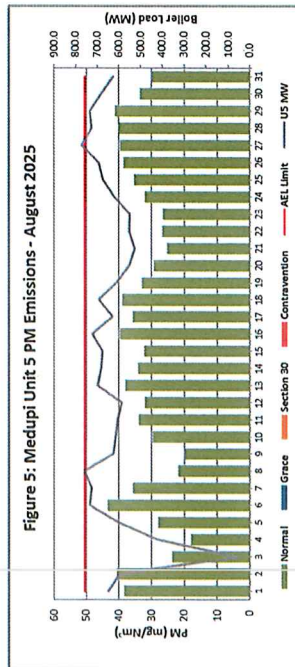
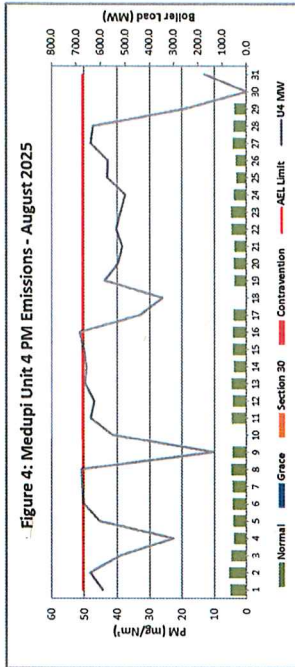
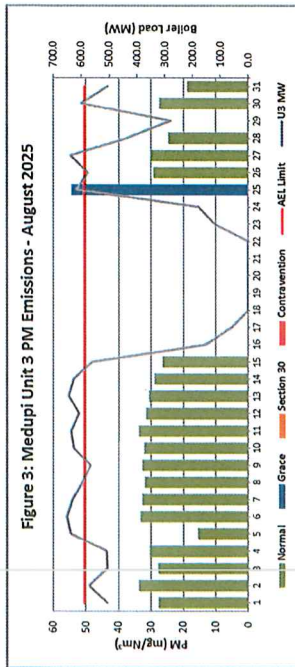
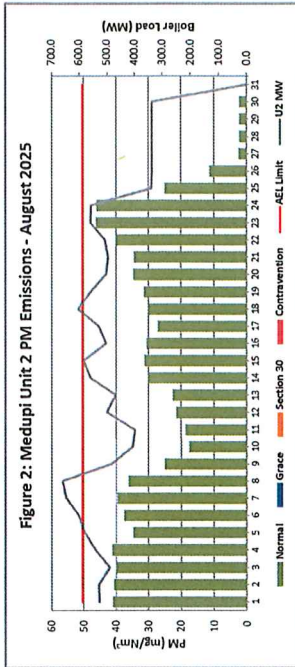
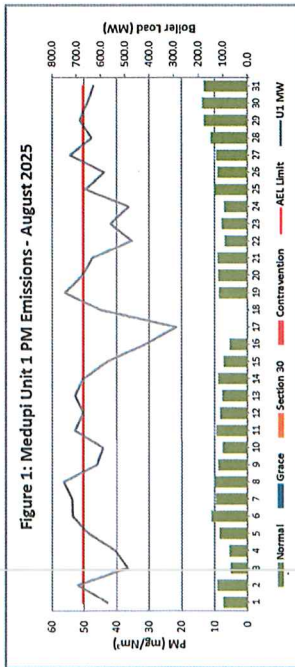
NO₂ Daily= 750 mg/Nm³



Medupi Power Station Monthly Emissions Report

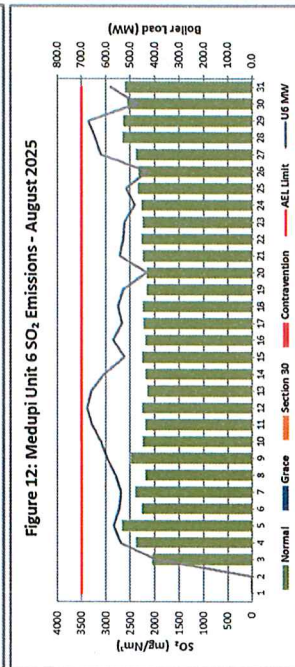
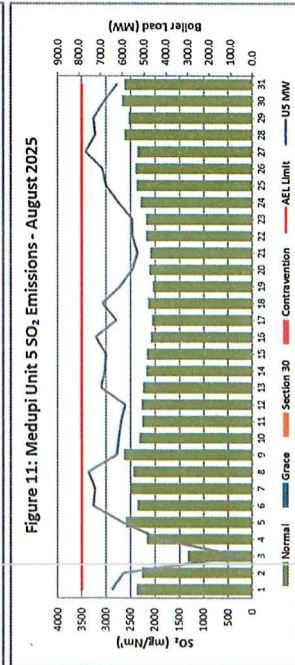
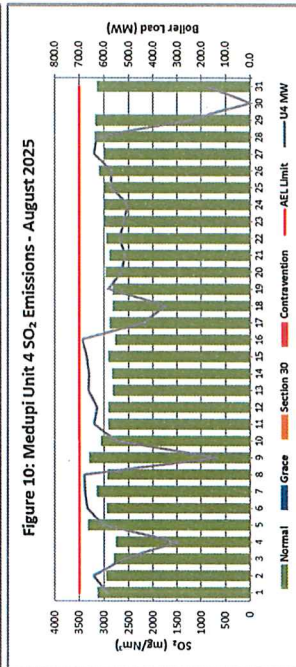
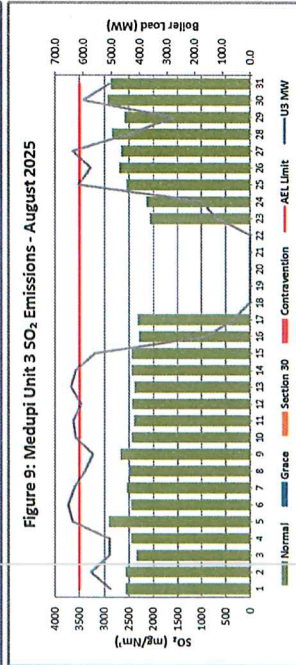
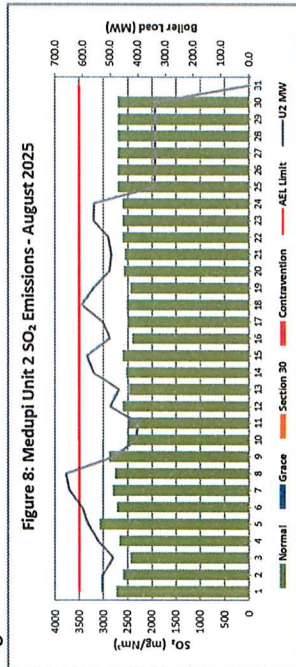
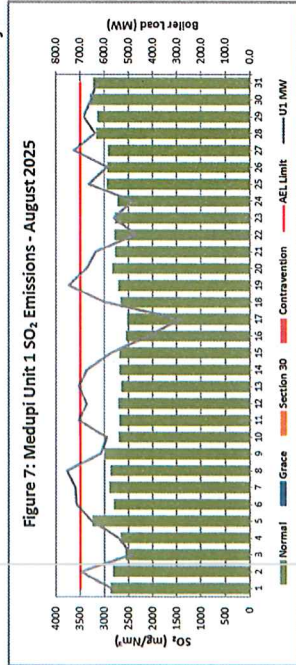
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4.1 PM Daily Averages



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4.2 SO₂ Daily Averages

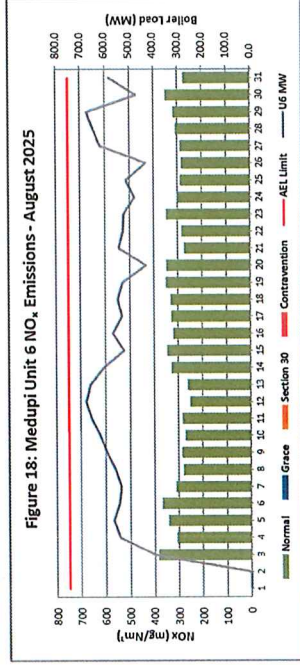
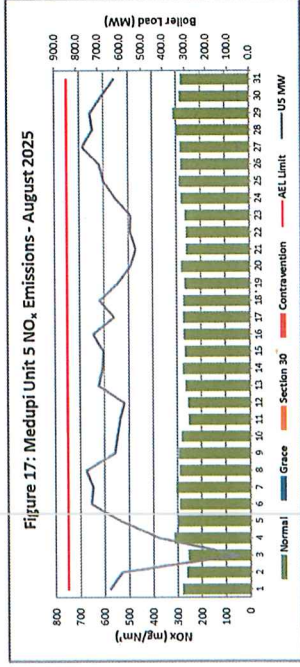
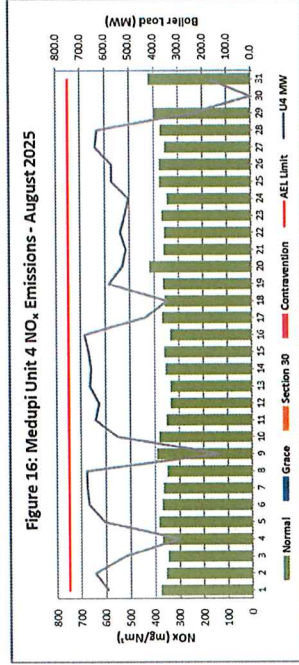
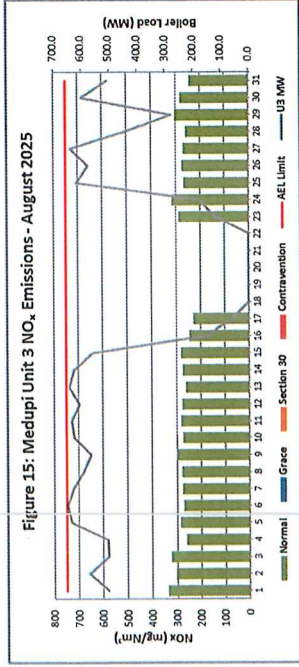
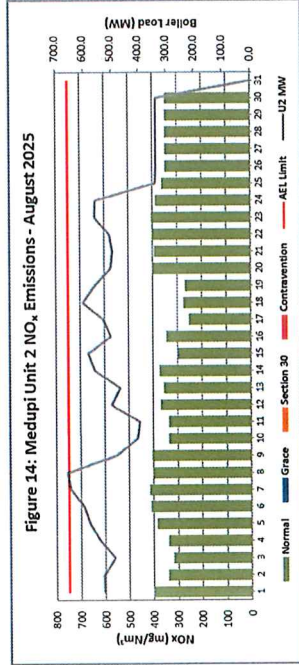
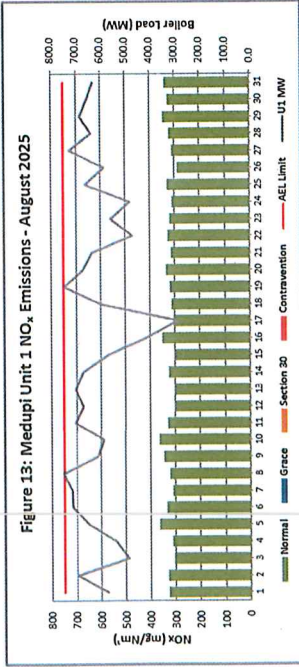




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4.3 NO_x Daily Averages



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TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF AUG 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	15.1	4 887	552
Unit 2	70.9	6 515	880
Unit 3	33.6	3 323	363
Unit 4	9.9	7 638	929
Unit 5	84.2	5 830	706
Unit 6	15.3	4 930	649
SUM (Tons)	229.17	33 122	4 080

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF AUG 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NO _x (mg/Nm ³)
Unit 1	9.0	2 831.8	323.4
Unit 2	28.2	2 630.8	356.9
Unit 3	30.2	2 521.7	279.6
Unit 4	4.3	2 982.4	366.4
Unit 5	32.8	2 286.7	280.2
Unit 6	6.9	2 317.5	311.5

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	81	100	100
Unit 2	100	81	81	80
Unit 3	89	100	100	100
Unit 4	100	100	100	100
Unit 5	100	100	100	98
Unit 6	100	100	100	100

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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 Aug 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 Aug 2025 were submitted in Aug 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 AUG 2025

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	Sunday, 31 August 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:	August	
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:	3 708	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH		
	Data	Unit
Daily average ambient temperature	20.46	°C
Daily maximum ambient temperature	28.86	°C
Daily minimum ambient temperature	12.76	°C
Daily ambient temperature range	16.09	°C
Daily total insolation factor	4.23	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:	0.11 kg/month	
TOTAL LOSSES (Total TVOC Emissions for the month):	0.83 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, 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.		

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

No awareness campaign was conducted for Aug 2025.

10. Complaints Register

TABLE 10: COMPLAINTS FOR THE MONTH OF AUG 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: 23/09/2025

Verified by: Malose Langa
System Engineer Boiler

 Date: 2025/09/23

Verified by: Shu Mpangase
System Engineer C&I

 Date: 2025-09-23

Supported by: Mokgadi Dikgale
Environmental Manager

 Date: 2025/09/23

Supported by: Sithokozile Hlongwa
Engineering Group Manager

 Date: 2025/09/23

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: 2025/09/25

