

	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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Ref: H16/1/13-AEL/M1/R1 – June 2025

Dear Mr Koenaitse

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF JUNE 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 June 2025 only.

1. Raw Materials and Products

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

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Consumption – June 2025
	Coal	Tons/month	1 875 000	951 967
	Fuel Oil	Tons/month	20 000	4 776
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Production Rate in Month of June 2025
	Energy	GWh	3 571.2	2070.90
	Ash Emitted	Tons/month	not specified	300.0

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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-June	24.0	24.0	24.0	0.0	24.0	0.0	25502	675	652	527	0.0	471	0.0
02-June	24.0	24.0	24.0	0.0	24.0	0.0	27353	677	640	611	0.0	498	0.0
03-June	3.3	24.0	24.0	0.0	8.3	0.0	20786	494	596	616	0.0	400	0.0
04-June	0.0	24.0	24.0	0.0	9.8	0.0	26201	631	638	578	0.0	613	363
05-June	9.5	24.0	24.0	0.0	24.0	0.0	27176	636	643	604	0.0	570	65
06-June	24.0	24.0	24.0	0.0	24.0	0.0	29912	646	623	630	0.0	572	349
07-June	8.0	24.0	24.0	0.0	24.0	0.0	30042	521	621	619	0.0	580	532
08-June	8.2	24.0	24.0	0.0	24.0	24.0	31546	511	587	608	0.0	580	538
09-June	24.0	24.0	24.0	0.0	24.0	24.0	35987	532	704	676	0.0	709	623
10-June	24.0	24.0	24.0	0.0	24.0	24.0	32645	647	616	676	0.0	481	549
11-June	24.0	24.0	24.0	0.0	24.0	24.0	34125	712	686	574	0.0	350	712
12-June	24.0	24.0	24.0	0.0	24.0	24.0	32948	711	711	450	0.0	369	748
13-June	24.0	24.0	24.0	0.0	24.0	24.0	34268	741	709	507	0.0	360	782
14-June	24.0	24.0	24.0	0.0	24.0	16.9	26189	714	581	412	0.0	424	771
15-June	24.0	24.0	24.0	0.0	24.0	0.0	33170	690	741	387	0.0	552	636
16-June	24.0	24.0	24.0	0.0	24.0	23.8	33781	700	709	395	0.0	550	683
17-June	24.0	24.0	24.0	0.0	24.0	24.0	35368	717	738	512	0.0	487	733
18-June	24.0	24.0	24.0	0.0	24.0	24.0	34102	699	695	534	0.0	375	719
19-June	24.0	24.0	24.0	0.0	24.0	24.0	34129	722	742	450	0.0	456	706
20-June	24.0	24.0	24.0	0.0	24.0	24.0	33044	653	651	450	0.0	560	656
21-June	24.0	24.0	24.0	0.0	24.0	24.0	33971	689	687	464	0.0	563	731
22-June	24.0	1.1	24.0	0.0	24.0	24.0	33102	639	678	483	0.0	570	683
23-June	24.0	18.3	24.0	0.0	24.0	12.8	33049	695	693	499	0.0	578	587
24-June	24.0	24.0	24.0	0.0	24.0	7.6	32393	643	600	474	0.0	695	597
25-June	24.0	24.0	24.0	0.0	24.0	21.1	32860	595	671	482	0.0	673	582
26-June	24.0	24.0	24.0	0.0	24.0	0.8	35044	695	712	515	0.0	701	558
27-June	24.0	24.0	24.0	0.0	24.0	24.0	35223	712	717	465	0.0	722	600
28-June	24.0	24.0	24.0	0.0	24.0	24.0	32255	640	643	440	0.0	692	593
29-June	24.0	24.0	24.0	0.0	24.0	24.0	33226	605	657	467	0.0	676	665
30-June	24.0	24.0	24.0	0.0	24.0	24.0	32570	653	647	463	0.0	669	656

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 JUNE 2025

Associated Unit/Stack	Technology Type	Efficiency	FFP Utilization
Unit 1	Fabric Filter Plant (FFP)	99.908%	100%
Unit 2	Fabric Filter Plant (FFP)	99.869%	100%
Unit 3	Fabric Filter Plant (FFP)	99.893%	100%
Unit 4	Fabric Filter Plant (FFP)	Off	Off
Unit 5	Fabric Filter Plant (FFP)	99.886%	100%
Unit 6	Fabric Filter Plant (FFP)	99.962%	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 JUNE 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	1.47
Ash Content	35 - 39	35.50

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

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.300
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:

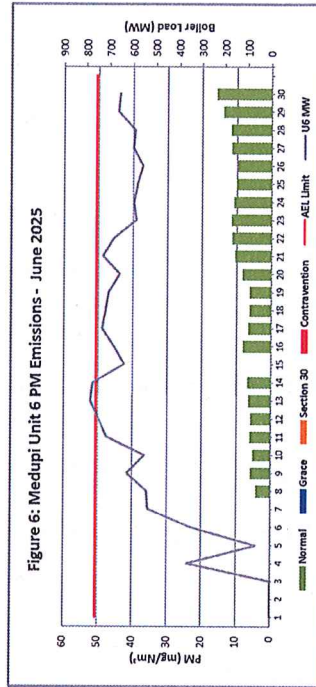
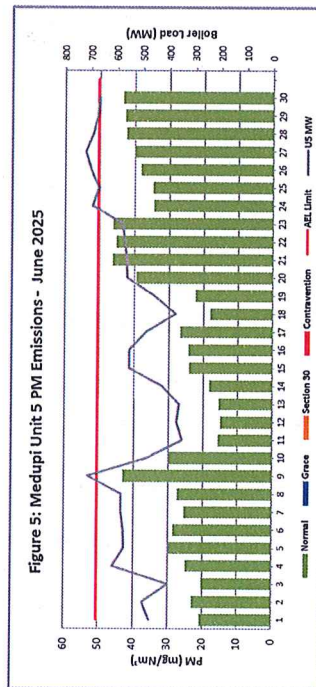
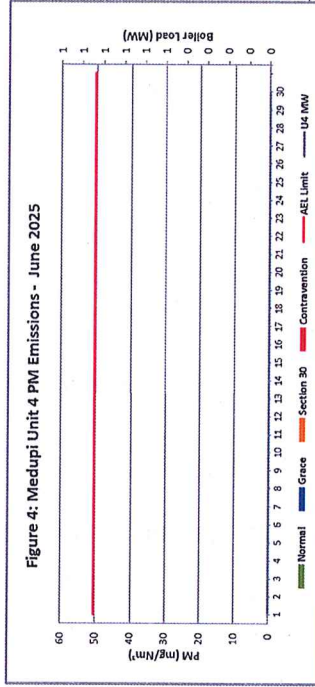
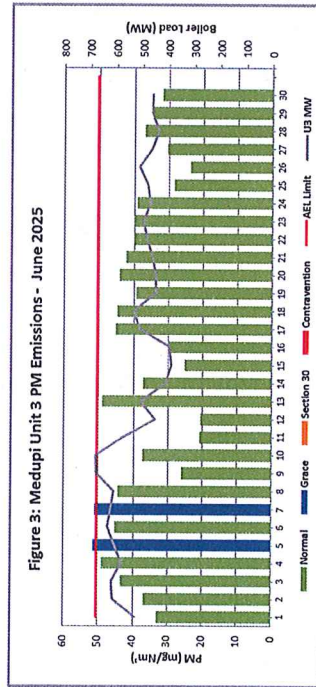
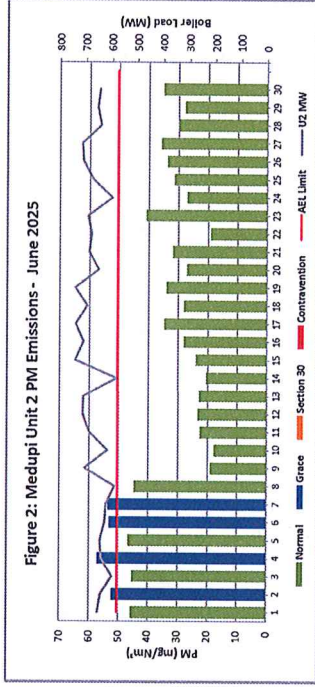
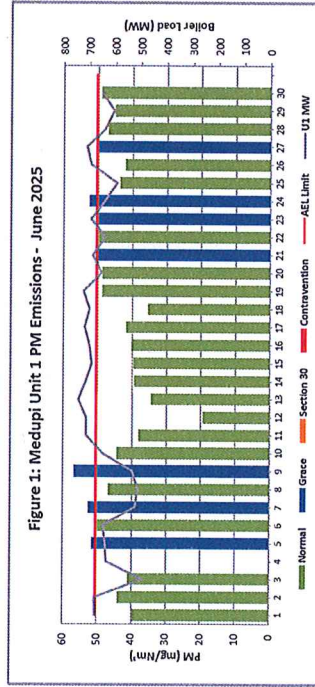
SO₂ Monthly = 3500 mg/Nm³

Dust Daily= 50 mg/Nm³

NO₂ Daily= 750 mg/Nm³

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4.1 PM Daily Averages

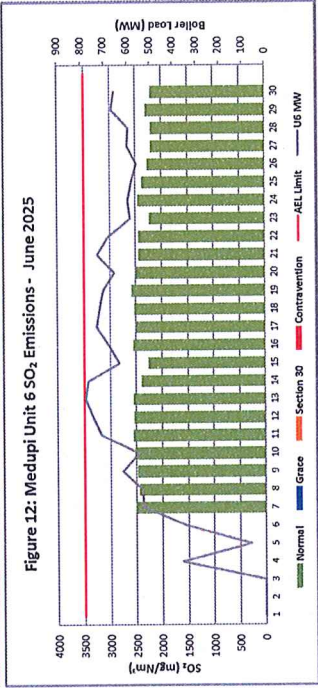
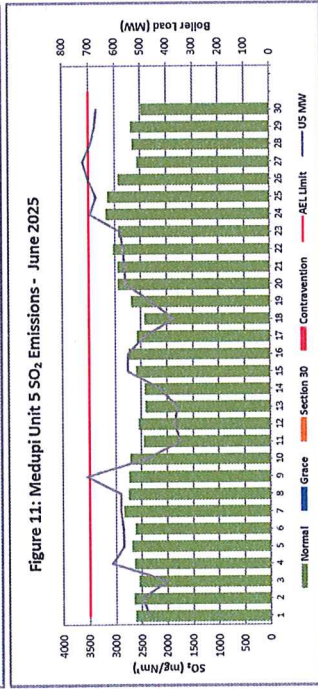
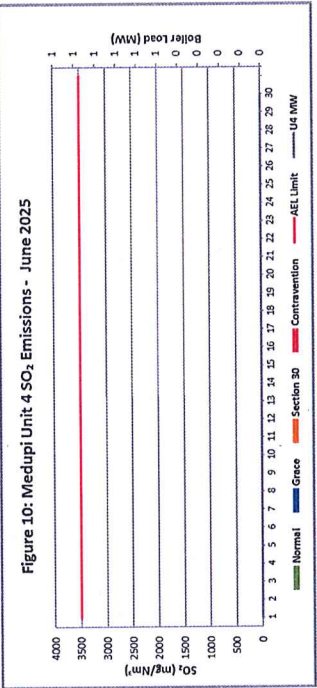
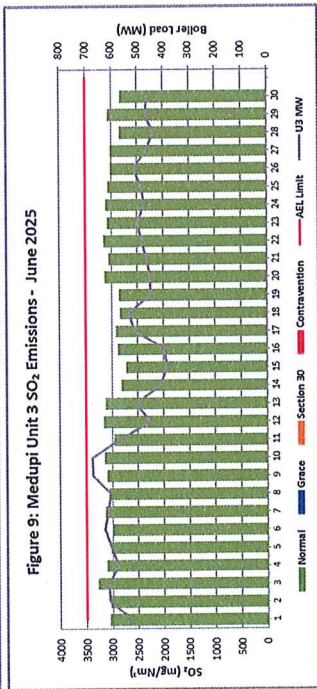
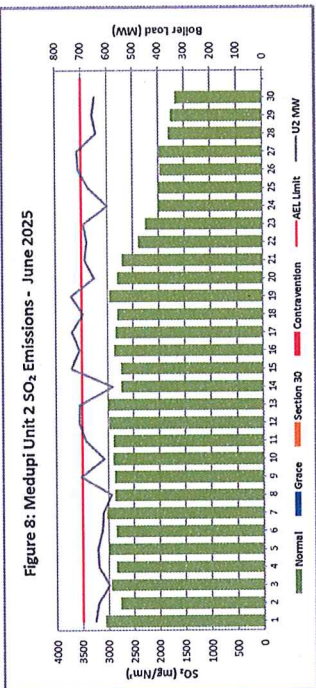
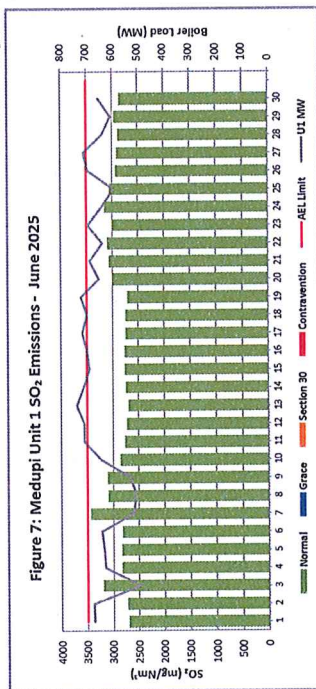




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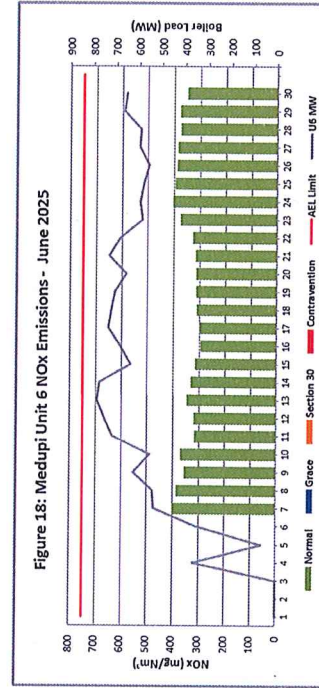
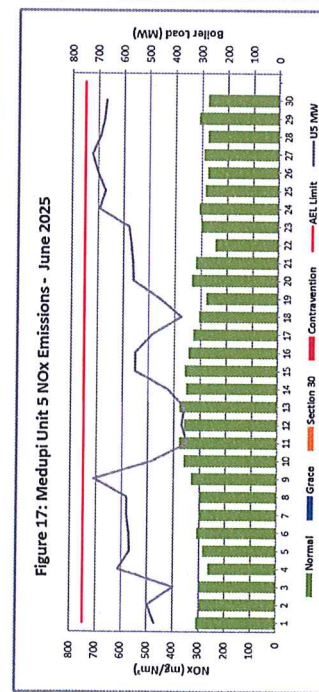
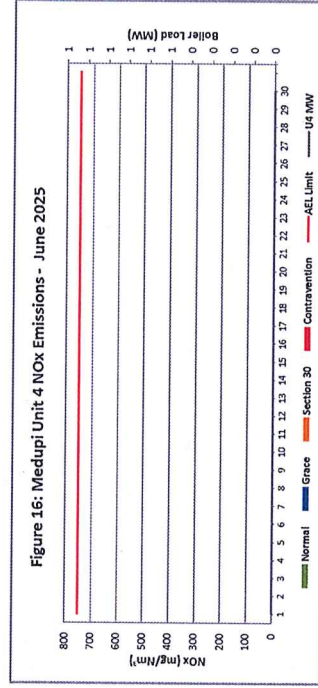
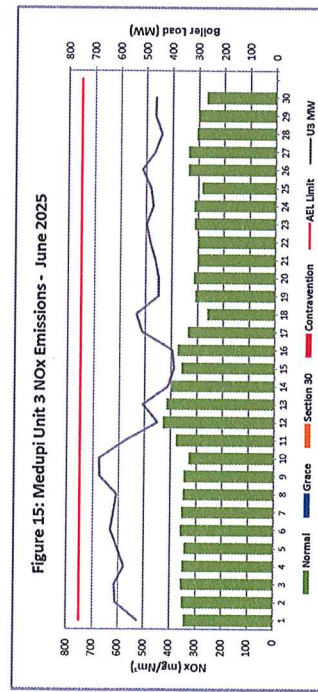
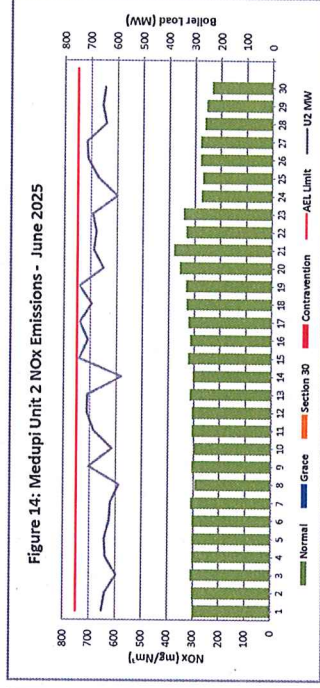
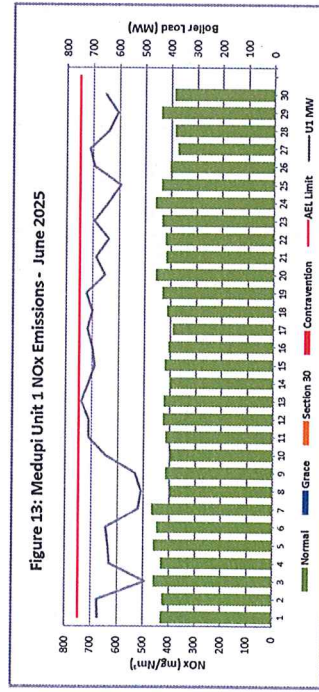
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4.2 SO₂ Daily Averages



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4.3 NOx Daily Averages



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TABLE 5: MONTHLY TONNAGES FOR THE MONTH OF JUNE 2025

Associated Unit/Stack	PM	SO ₂	NO ₂
Unit 1	64.9	4 594.3	670.0
Unit 2	92.3	7 313.6	853.5
Unit 3	59.2	4 752.9	530.6
Unit 4	Off	Off	Off
Unit 5	63.6	5 617.7	635.8
Unit 6	20.1	6 793.5	967.6
SUM (Tons)	300.0	29 072.0	3 657.4

TABLE 6: MONTHLY AVERAGES FOR THE MONTH OF JUNE 2025

Associated Unit/Stack	Average PM (mg/Nm ³)	Average SO ₂ (mg/Nm ³)	Average NO _x (mg/Nm ³)
Unit 1	44.7	2 907.3	422.5
Unit 2	33.8	2 608.3	304.9
Unit 3	37.4	3 020.3	337.7
Unit 4	Off	Off	Off
Unit 5	30.2	2 706.1	312.0
Unit 6	8.7	2 420.1	348.2

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
01-19 June 2025	Faulty Unit 1 gas CEMS	Surrogate value was used to calculate SO ₂ emissions from 1-19 June 2025

TABLE 8: CEMS MONITOR RELIABILITY PERCENTAGE (%)

Associated Unit/Stack	PM	SO ₂	NO ₂	O ₂
Unit 1	97.3	100.0	99.9	99.9
Unit 2	99.7	99.7	99.7	69.7
Unit 3	79.0	87.9	87.6	87.2
Unit 4	Off	Off	Off	Off
Unit 5	100.0	100.0	100.0	99.7
Unit 6	100.0	100.0	100.0	99.5

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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 June 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 June 2025 were submitted in June 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 JUNE 2025

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	2025/06/31	
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:	June	
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:	4 776	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH	Data	Unit
Daily average ambient temperature	16.61	°C
Daily maximum ambient temperature	25.19	°C
Daily minimum ambient temperature	9.38	°C
Daily ambient temperature range	15.81	°C
Daily total insolation factor	3.45	kWh/m ² /day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorbance	0.39	NA
FINAL OUTPUT:	Result	Unit
Breathing losses:	0.71 kg/month	
Working losses:	0.14 kg/month	
TOTAL LOSSES (Total TVOC Emissions for the month):	0.84 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 June 2025.

10. Complaints Register

TABLE 10: COMPLAINTS FOR THE MONTH OF JUNE 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: 25/07/2025

Verified by: Malose Langa
System Engineer Boiler


Date: 2025/07/25

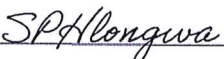
Verified by: Shu Mpangase
System Engineer C&I

P.R. 
Date: 2025/07/25

Supported by: Mkgadi Dikgale
Environmental Manager


Date: 2025/07/28

Supported by: Sithokozile Hlongwa
Engineering Group Manager


Date: 2025.07.29

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: 2025/07/31

