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Phumudzo Thivhafuni

Date: 2019/05/30

Limpopo Dept. of Economic Development, Environment and Tourism

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Ref: 12/4/12L-W2/A3 – Apr 2019

Dear Phumudzo

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF APRIL 2019

This document serves as the monthly report required in terms of Section 7.7.1 of Medupi Power Station Provisional Atmospheric Emission License (AEL), 12/4/12L-W2/A3.

This report is a reflection of Unit 4, 5 and 6 gaseous and particulate emissions performance against the AEL limit for the month of April 2019 only.

1. Raw Materials and Products

Table 1: Quantity of raw materials and products for Unit 4, 5 and 6 in April 2019

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Unit 4, 5 and 6 consumption April 2019
	Coal	Tons/month	1 875 000	475 356
	Fuel Oil	Tons/month	40 000	2505
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Unit 4, 5 and 6 Production Rate in Month of April 2019
	Energy	MW	4 800	1 702
	Ash Emitted	Tons/month	not specified	108.4

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Table 2: Daily consumption and production rates


Date	Reportable hours of Operation			Fuel Consumption (tons)				Production rate (MW)		
	Unit 4	Unit 5	Unit 6	Oil			Coal	U4	U5	U6
				Aux Boiler	Units	Total	Units			
01-Apr-19	18.0	24.0	24.0	0.00	0	0	17056	360	602	645
02-Apr-19	1.7	24.0	24.0	0.00	175	175	17130	399	593	620
03-Apr-19	24.0	24.0	24.0	0.00	333	333	19497	653	595	537
04-Apr-19	24.0	24.0	24.0	0.00	30	30	18932	583	551	588
05-Apr-19	24.0	24.0	24.0	0.00	12	12	19150	589	523	623
06-Apr-19	22.5	24.0	24.0	0.00	12	12	17443	376	540	664
07-Apr-19	0.0	24.0	1.2	0.00	231	231	11014	488	500	453
08-Apr-19	23.3	24.0	0.0	0.00	11	11	12166	583	549	
09-Apr-19	24.0	24.0	0.0	0.00	0	0	11978	577	530	
10-Apr-19	24.0	24.0	0.0	0.00	46	46	12117	614	509	
11-Apr-19	24.0	24.0	0.0	0.00	9	9	11210	568	450	
12-Apr-19	24.0	24.0	0.0	0.00	0	0	12046	656	489	
13-Apr-19	24.0	24.0	0.0	0.00	21	21	13072	699	547	
14-Apr-19	24.0	24.0	0.0	0.00	20	20	13266	703	541	
15-Apr-19	24.0	24.0	0.0	0.00	137	137	14385	777	520	85
16-Apr-19	24.0	24.0	0.0	0.00	83	83	13769	696	525	
17-Apr-19	24.0	24.0	0.0	0.00	0	0	13129	759	494	
18-Apr-19	24.0	24.0	0.0	0.00	0	0	13355	685	442	337
19-Apr-19	24.0	24.0	0.0	0.00	61	61	13530	645	428	454
20-Apr-19	24.0	24.0	10.9	0.00	320	320	12001	567	443	580
21-Apr-19	24.0	24.0	24.0	0.00	225	225	16960	682	442	660
22-Apr-19	24.0	24.0	24.0	0.00	124	124	18730	667	433	630
23-Apr-19	24.0	24.0	24.0	0.00	105	105	18300	661	455	696
24-Apr-19	24.0	24.0	24.0	0.00	162	162	19106	755	464	769
25-Apr-19	24.0	24.0	24.0	0.00	166	166	20688	655	476	659
26-Apr-19	24.0	24.0	13.4	0.00	117	117	19100	680	464	599
27-Apr-19	24.0	24.0	1.6	0.00	88	88	17833	656	487	578
28-Apr-19	24.0	24.0	24.0	0.00	4	4	18496	694	509	691
29-Apr-19	24.0	22.0	24.0	0.00	6	6	20541	659	495	630
30-Apr-19	24.0	0.0	24.0	0.00	7	7	19358	550	449	662

Note: Medupi Power Station Unit 6 and 5 was on outage from 8-17 May 2019 for Boiler tube leak repairs

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2. Abatement Technology

Table 3: Abatement Equipment Control Technology utilisation for month of April 2019

Associated Unit/Stack	Technology Type	Actual Utilisation (%) for the month of April 2019
Unit 4,5 and 6	Low NO _x Burners	100
	Pulse Jet Fabric Filter Plant	100

3. Energy Source Characteristics

Table 4: Energy Source Material Characteristics for the month of April 2019

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	1.54
Ash Content	35 - 39	33.53

Table 5: Energy Source Material Characteristics for the month of April 2019

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.2
Ash Content	0.02 - 0.1	0.017

4. Emissions Reporting

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

The daily emission limits are as follows:

SO₂= 3500 mg/Nm³

Dust= 50 mg/Nm³

NO₂= 750 mg/Nm³

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Table 6: Daily averages emissions for the month of April 2019

Days	PM (mg/Nm ³)			SO ₂ (mg/Nm ³)			NO _x (mg/Nm ³)			CO (mg/Nm ³)			Temp (°C)			Press (kPa)			Velocity (m/s)			O ₂ (%)			CO ₂ (mg/Nm ³)				
	Unit	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	
1	8.5	45.2	27.9	3 028	1 988	2 976	468	491	340	8	15	13	129.0	143.0	89.8	89.6	89.7	12.0	89.7	6.6	7.7	6.7							
2	7.7	40.2	7.8	2 938	2 010	3 020	483	509	416	4	16	17	126.9	136.8	90.0	89.9	89.9	11.7	89.9	6.6	8.5	6.8							
3	8.1	42.1	7.5	3 452	1 753	2 578	645	476	410	6	17	14	117.0	135.4	90.0	89.9	90.0	11.5	90.0	6.6	7.6	7.4							
4	8.8	47.7	40.5	3 477	1 837	2 748	579	441	399	6	13	16	117.0	135.4	89.7	89.6	89.7	10.9	89.7	6.6	7.7	6.8							
5	7.5	34.1	37.3	3 631	1 961	2 878	557	432	334	20	5	12	117.0	135.4	89.6	89.5	89.5	10.6	89.5	6.6	8.1	6.6							
6	5.3	48.3	37.3	2 774	1 873	2 774	494	468	345	5	10	8	117.0	135.4	89.9	89.7	89.7	11.0	89.7	6.6	8.0	6.3							
7		44.4	17.6	3 276	1 631	2 765	546	452	382	11	4	2	116.9	135.4	89.9	89.8	89.8	10.7	89.8	6.6	8.8	7.9							
8	7.9	50.2		3 572	1 741		542	506		15	5		113.4		89.9	89.9		11.4		6.6	9.6								
9	9.0	60.7		3 598	1 890		567	597		7	6		115.5		89.8	89.8		11.1		6.6	11.0								
10	11.5	51.1		3 499	1 864		612	533		6	4		117.1		89.8	89.8		10.4		7.0	10.2								
11	7.6	31.4		4 005	2 637		605	429		7	6		114.1		88.6	88.6		8.9		7.2	8.6								
12	9.3	30.5		3 543	2 241		619	425		6	6		112.0		89.9	89.9		9.6		6.6	8.0								
13	12.4	39.2		3 674	2 292		614	417		8	4		116.9		89.8	89.8		11.1		6.3	7.4								
14	12.8	37.3		4 060	2 438		626	414		8	5		119.8		89.7	89.6		11.0		6.3	7.6								
15	16.5	29.8		4 445	2 718	2 178	700	421	415	8	4	0	121.7	113.5	89.6	89.6	89.7	10.6	89.7	5.9	7.9	13.1							
16	15.0	35.4		3 704	1 952		660	432		4	5		118.2		89.8	89.8		10.5		6.5	8.6								
17	17.1	30.9		3 678	1 697		682	426		5	5		117.3		90.0	90.0		10.0		6.1	8.4								
18	14.4	25.8		3 892	1 660	2 632	643	422	344	5	4	8	117.0	125.9	90.1	90.1	90.2	9.0	90.2	6.5	9.4	9.8							
19	14.6	26.0		3 726	1 597	2 957	611	440	343	5	4	5	114.8	129.9	90.1	90.0	89.9	8.6	89.9	6.8	9.3	8.1							
20	13.5	28.1	15.8	3 727	1 553	3 025	559	430	337	8	4	16	114.8	133.3	89.8	89.8	89.8	9.1	89.8	7.2	9.5	6.9							
21	18.8	29.6	20.3	3 526	1 358	2 817	548	459	388	16	5	30	113.1	136.6	89.8	89.8	89.8	9.1	89.8	6.6	10.8	6.4							
22	16.3	34.8	18.0	3 919	1 539	3 120	558	563	387	9	6	41	112.2	134.3	89.9	89.9	89.9	8.9	89.9	6.9	11.9	6.5							
23	19.0	37.6	29.4	3 538	1 196	2 794	536	568	361	14	7	32	113.3	138.2	89.9	89.9	89.9	9.4	89.9	6.8	12.2	6.1							
24	25.6	29.9	34.9	3 273	1 627	2 694	524	463	364	25	6	35	114.8	142.9	89.8	89.8	89.7	9.7	89.7	6.2	10.4	5.7							
25	14.7	26.8	19.4	3 717	2 165	2 963	547	427	370	12	3	29	115.2	138.8	89.7	89.6	89.7	10.0	89.7	6.7	8.5	6.2							
26	17.7	19.1	19.0	3 776	2 344	3 069	556	430	382	11	4	14	117.2	134.3	89.8	89.8	89.9	9.5	89.9	6.5	8.5	6.9							
27	14.3	21.2	18.9	3 593	2 346	2 921	549	450	361	12	4	19	117.4	133.6	90.2	90.1	90.2	10.1	90.2	6.6	8.4	6.8							
28	19.7	28.1	33.0	3 731	2 272	2 980	533	427	396	13	4	24	116.1	139.6	90.3	90.3	90.3	10.5	90.3	6.5	8.4	6.1							
29	16.6	22.6	32.2	4 106	2 550	3 186	592	505	466	7	2	19	119.0	142.4	90.2	90.2	90.2	10.3	90.2	6.7	8.8	6.8							
30	10.3	20.1	33.6	3 873	2 464	3 113	638	456	464	12	5	17	117.8	143.4	90.0	90.0	90.0	10.9	90.0	7.6	9.7	6.6							

Note:

- Unit 4 O₂ monitor was faulty for the days shaded yellow
- There is no reportable data on areas shaded black; this is a result of unit trip, outage and/or grace period.
- Unit 4 temperature and velocity meters are faulty. The Power station maintenance team is awaiting spares for the repairs of the instrument to be conducted.
- Medupi power station is awaiting spares for unit 4, 5 and 6 CO₂ monitor.
- Unit 4 SO₂ high due to invalid correction factor

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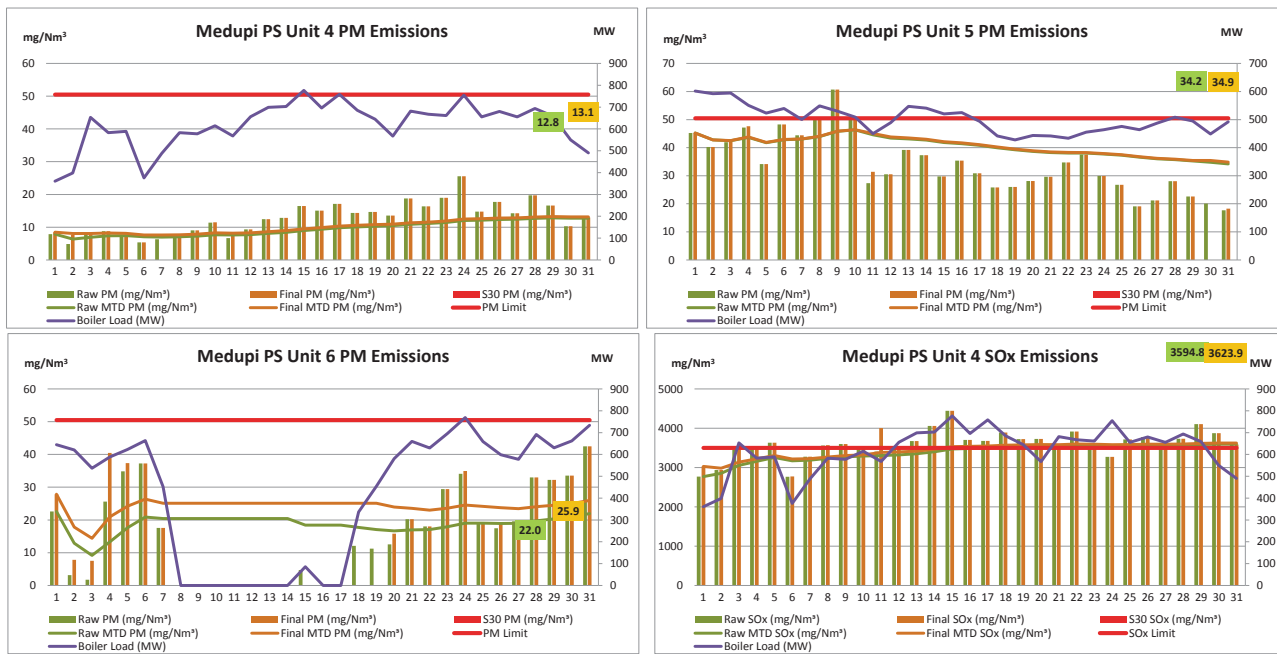
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Figure 1: Medupi Power Station graphical representation of the daily average emissions



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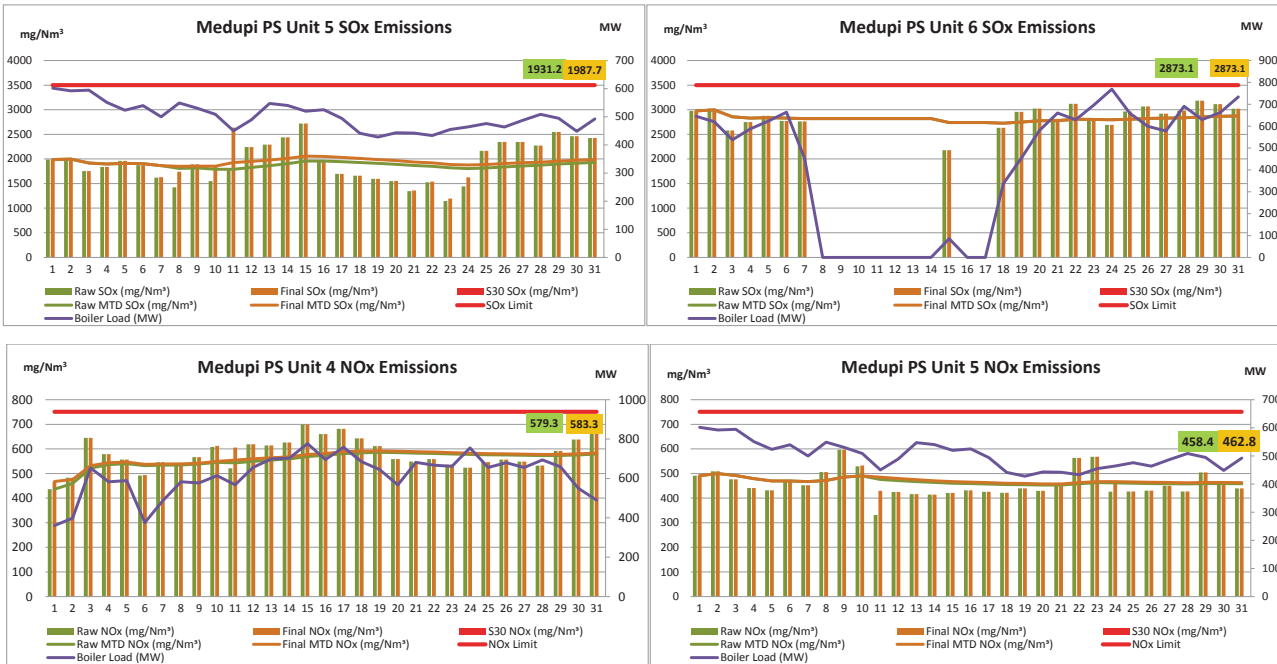
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NOTE: Unit 4 SOx Emissions exceedances are due to incorrect correction factor, the station is awaiting the correlation test report with the new correction factor.



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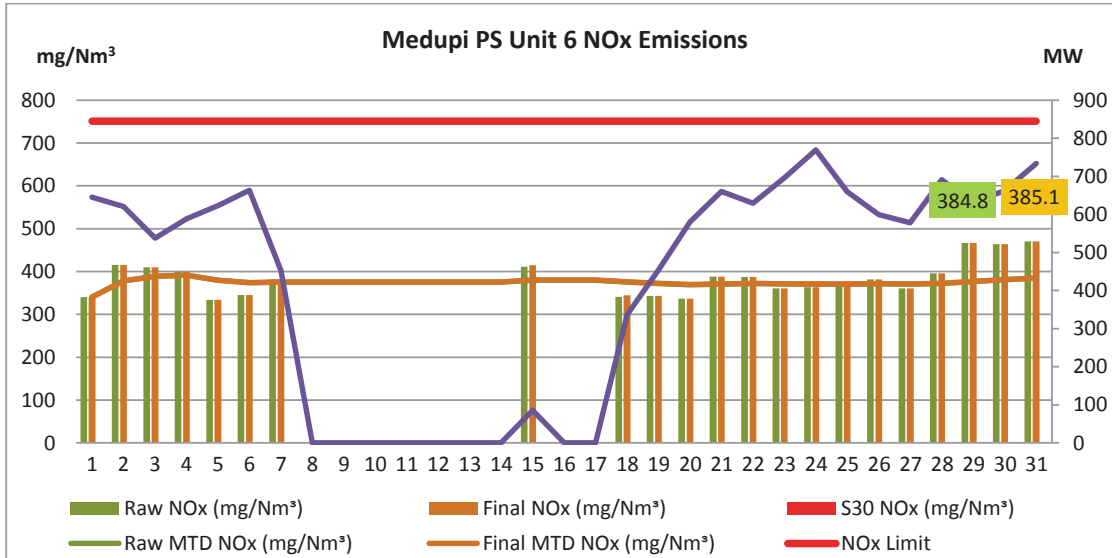


Table 7: Monthly tonnages for the month of April 2019


Unit	PM (tons)	SO ₂ (tons)	NO ₂ (tons)	CO (tons)	CO ₂ (tons)
1	0.0	0	0		
2	0.0	0	0		
3	0.0	0	0		
4	28.6	7 813	1 249		
5	53.2	3 018	697		
6	26.7	3 275	430		
SUM	108.4	14 105	2 376		

Unit 4, 5 and 6 CO₂ monitoring equipment is currently not functional, procurement process is undergoing to purchase the spare required to fix/repair the equipment. It is anticipated that, the spare will be onsite by end of August 2019.

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5. Shutdown/start-up information

Table 8: Days operating under normal operation, days in grace period and section 30 days respectively

Unit	Operating Days (DD:HH:MM)			
	Normal operation	In grace period	Under S 30	Unit off load
1	00:00:00	00:00:00	00:00:00	30:00:00
2	00:00:00	00:00:00	00:00:00	30:00:00
3	00:00:00	00:00:00	00:00:00	30:00:00
4	29:17:25	00:00:00	00:00:00	00:06:35
5	29:12:05	00:00:00	00:00:00	00:11:55
6	17:18:40	00:00:00	00:00:00	12:05:20


Table 9: Days operating in Emergency Level one (EL1)

Hours April EL1			
Date	EL1 Start	Date	EL1 Start
01-Apr-19	(20:24) EL1 and MCR cancelled. (05h19) EL1& MCR in force.	16-Apr-19	(05h24) EL1 & MCR in force
02-Apr-19	None	17-Apr-19	None
03-Apr-19	None	18-Apr-19	((18:14) EL1 & MCR in force (19:00) Cancelled
04-Apr-19	(16:38) EL1 and MCR in force 21:47 Cancelled	19-Apr-19	None
05-Apr-19	(05:11) EL1 and MCR in force (22:30) EL1 and MCR in force Cancelled	20-Apr-19	None
06-Apr-19	(07:18) EL1 and MCR in force	21-Apr-19	None

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Hours April EL1			
Date	EL1 Start	Date	EL1 Start
	(21:50) EL1 and MCR in force Cancelled		
07-Apr-19	None	22-Apr-19	15:02 MCR and EL 1 in force 21:16 Cleared
08-Feb-19	05h05: EL1 in force	23-Apr-19	08h42: EL1 in force 11h30: EL1 cancelled
09-Apr-19	(21h54) EL1 & MCR cancelled. (05h07) EL1 in force	24-Apr-19	15:15 EL1 and MCR in force(21h40 Cancelled)
10-Apr-19	05h04 EL1 and MCR in force	25-Apr-19	None
11-Apr-19	04h50 EL1 and MCR in force	26-Apr-19	None
12-Apr-19	4:50 EL1 and MCR in force 21:58 EL1 and MCR cancelled	27-Apr-19	None
13-Apr-19	21:54 EL1 and MCR cancelled	28-Apr-19	None
14-Apr-19	18:02 EL1 and MCR in force. 20:22 EL1 and MCR cancelled	29-Apr-19	(17:01) EL1 and MCR in force (19:16) EL1 and MCR cancelled
15-Apr-19	(14h49) EL1 & MCR in force(21h25 Cancelled)	30-Apr-19	None


6. Comments on the performance and availability of each unit

Unit 6 was off for 12 days due to tube leak and there were no exceedances for SO₂ NO_x and PM during April 2019 reporting period. Unit 5 was operational for 29 days and 12 hours and there were only two exceedances recorded due to an upset condition at the PJFF plant; there was no exceedance for SO₂ and NO_x.

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Unit 4 operated for 29 days and 17 hours; there was zero emissions exceedance for both Particulate and NO_x. Unit 4 SO_x exceedances are due to the implemented correction factor which is being reviewed.

7. Light up information

Table 10: PM Start-up information for the month of April

Event No.	<i>Event 1</i>	
Unit	<i>Unit 6</i>	
Fires in	12:15 AM	2019/04/18
Synchronisation with Grid	01:00 PM	2019/04/18
Emissions below limit from Sync (Date and Time)	<i>did not go above limit</i>	<i>did not go above limit</i>
Fires in to synchronization	00:12:45	Hrs (dd:hh:mm)
Synchronization to < limit (Duration)	<i>did not go above limit</i>	Hrs (dd:hh:mm)

Table 11: Emission Average from Fires-in to Synchronisation

South Stack Emission Average from Fires-in to Synchronisation (Date and Time)							
Unit	Fires-In		Synchronisation		PM	SO ₂	NO _x
Unit 6	2019/04/18	12:15 AM	2019/04/18	01:00 PM	10.3	2238.7	377.1

Table 12: Point Source emissions released during Shut-down

South Stack Emission Average Breaker Open (BO) to Draft Group Shut Down (SD) (Date & Time)							
Unit	Breaker Open		DG SD		PM	SO ₂	NO _x
Unit 6	2019/04/06	01:10 AM	2019/04/06	01:55 PM	28.8	2909.8	344.4


8. Continuous Emission Monitoring Systems (CEMS)

Unit 4, 5 and 6 Continuous Emission Monitoring Systems were in operation at all times when the unit was on load.

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CEMS CO₂ monitor verification test not yet conducted as a result of challenges on the equipment, the power station is in the process of procuring spares to fix the equipment, and the Licencing Authority will be notified prior to conducting the test. Unit 4 O₂ monitor was faulty and was replaced with a new component.

Table 13: Periods during which CEMS was inoperative

Date	Nature of Repair/Adjustment
1-9 April 2019	Replacement of a faulty O ₂ monitor at Unit 4

Table 14: CEMS Monitor Reliability

Variable	Unit 4	Unit 5	Unit 6
Dust	100.0	100.0	100.0
SO ₂	99.4	96.8	100.0
NO _x	99.4	99.0	100.0
CO	100.0	100.0	100.0
O ₂	70.0	96.6	97.2
Temperature	0.0	82.5	72.2
Pressure	100.0	100.0	100.0
Velocity	0.0	99.1	94.8
CO ₂	60.6	0.0	24.8

9. CEMS Calibration certificates and equipment used for calibration

See attached Appendix A


10. Ambient Air Quality Monitoring Report

The Ambient Air Quality Monitoring and Dust fall-out report are emailed to the Licensing authority on a monthly basis.

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11. Visual inspection of the exterior walls of the fuel oil tanks, fuel oil inventory data 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 15: Total Volatile Organic Compound (TVOC) for April 2019

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	30 April 2019	
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 <i>blue cells</i> below Choose from a dropdown menu in the <i>green cells</i> The total VOC emissions for the month are in the <i>red cells</i> IMPORTANT: Do not change <i>any</i> other cells without consulting the AQ CoE		
MONTH:	April	
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:	2505	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH		
	Data	Unit
Daily average ambient temperature	20.60	°C
Daily maximum ambient temperature	27.37	°C
Daily minimum ambient temperature	13.11	°C
Daily ambient temperature range	10.46	°C
Daily total insolation factor	3.84	kWh/m ² /day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorbance	0.39	NA
FINAL OUTPUT:		
	Result	Unit
Breathing losses:	0.61	kg/month
Working losses:	0.07	kg/month
TOTAL LOSSES (Total TVOC Emissions for the month):	0.69	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>		

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

There were no activities relating to community awareness campaign during the month of April 2019.

13. Complaints Register


Table 16: Complaints for the month of April 2019

Source Code/ Name	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
N/A	No complaints received	N/A	N/A	N/A	N/A

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Compiled by:

Senior Environmental Advisor

Verified by:

Boiler System EIT

Supported by:

Boiler Engineering Manager

Supported by:

Environmental Manager

Supported by:

Engineering Group Manager (Acting)


I **declares that the information provided in this report is accurate and correct.**

GENERAL MANAGER: MEDUPI POWER STATION

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APPENDIX 1

CEMS Calibration certificates



Elemental Analytics
Analyser Specialist

12 Angeller Street, Bardene,
Boksburg, SA, 1459
PO Box 328, Isando, SA, 1600
VAT REG #: 421 021 3249
www.e-analytics.co.za

Tel: 0861 000 000
Int. Tel: +27 11 918 6994
Fax: +27 11 884 1037
GD REG #: 2004/07607/07
info@e-analytics.co.za

CALIBRATION CERTIFICATE

CERTIFICATE NO: 3152	
CUSTOMER:	Medupi Power Station
CONTACT NAME:	Christo Vorster
MODEL:	Dr Fodisch MGA 23
AUXILIARY EQUIPMENT:	Unit 4
JOB NO:	SC1437
PHONE:	014 762 2255
SERIAL NO:	13668

CHAN		PRIOR	FINAL	TEST GAS	TEST GAS VALUE	GAS CERTIFICATE NUMBER
1	ZERO	-5.0 ppm	0 ppm	Air	21 %	Air
	SPAN	800 ppm	804 ppm	O ₂	805.9 ppm	80A
2	ZERO	1.0 ppm	0 ppm	Air	21 %	Air
	SPAN	911 ppm	910 ppm	NO	910 ppm	1260B
3	ZERO	-7.4 ppm	0 ppm	Air	21 %	Air
	SPAN	2205 ppm	2173 ppm	SO ₂	2172.8 ppm	12654
4	ZERO	-0.08 %	0.0 %	N ₂	99.99 %	1260B
	SPAN	21.13 %	20.95 %	O ₂	20.95 %	Air

REPORT: Inspect sample lines and sample system, check diagnostics. Calibrate analyser with zero and span gas, calibration was done according to cylinder standards, analyser was responding to all test gas.

Date: 14 May 2019

Calibration Due Date: Aug 2019

Technician: J. Faber







Document Number: TH-PFC-002-F1 Rev 1

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Fax: +27 11 954 1037
CO REG #: 3004007607007
info@e-analytics.co.za

1881 Level 2 Contents

CALIBRATION CERTIFICATE

CERTIFICATE NO: 3113

CUSTOMER:	Medupi Power Station	JOB NO:	SC1437
CONTACT NAME:	Christo Vorster	PHONE:	014 762 2255
MODEL:	Dr Fodisch MGA 23	SERIAL NO:	13670
AUXILIARY EQUIPMENT:	Unit 5		

CHAN		PRIOR	FINAL	TEST GAS	TEST GAS VALUE	GAS CERTIFICATE NUMBER
1	ZERO	-7.0 ppm	0 ppm	Air	21 %	Air
	SPAN	796 ppm	804 ppm	CO	803.9 ppm	8GA
2	ZERO	-12.0 ppm	0 ppm	Air	21 %	Air
	SPAN	891 ppm	910 ppm	NO	910.0 ppm	12608
3	ZERO	-15.1 ppm	0 ppm	Air	21 %	Air
	SPAN	1930 ppm	2173 ppm	SO2	2172.8 ppm	12664
4	ZERO	-0.06 %	0.0 %	N2	99.99 %	12608
	SPAN	21.2 %	20.95	O2	20.95 %	Air

REPORT: Inspect sample lines and sample system, check diagnostics, sample pump was change. Calibrate analyser with zero and span gas, analyser respond to all test gas.

Date: 14 May 2019

Calibration Due Date: Aug 2019

Technician: J. Faber



Document Number: TH-PFC-002-F1 Rev 1

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CO REG #: 2004/007607/07
info@e-analitics.co.za

CALIBRATION CERTIFICATE

CERTIFICATE NO: 3964

CUSTOMER:	Medupi Power Station	JOB NO:	SC1437
CONTACT NAME:	Christo Vorster	PHONE:	014 762 2255
MODEL:	Foedisch MGA 23	SERIAL NO:	16339
AUXILIARY EQUIPMENT:	Unit 6		

CHAN		PRIOR	FINAL	TEST GAS	TEST GAS VALUE	GAS CERTIFICATE NUMBER
1	ZERO	-11.0 ppm	0 ppm	Air	21 %	Air
	SPAN	787 ppm	804 ppm	CO	803.9 ppm	80A
2	ZERO	-32.0 ppm	0 ppm	Air	21 %	Air
	SPAN	882 ppm	910 ppm	NO	910.0 ppm	12608
3	ZERO	-36.0 ppm	0 ppm	Air	21 %	Air
	SPAN	2278 ppm	2173 ppm	SO2	2172.8 ppm	12664
4	ZERO	0.05 %	0.0 %	N2	99.99 %	12608
	SPAN	20.89 %	20.95 %	O2	20.95 %	Air

REPORT: Inspect sample lines and sample system, check diagnostics. Calibrate analysers with zero and span gas, calibration was done according to cylinder standards, analysers were responding to all test gas.

Date: 14 May 2019
Calibration Due Date: Aug 2019
Technician: J. Faber




SERVOMEX
A METROLOGICAL COMPANY


TELEDYNE ANALYTICAL INSTRUMENTS
A Teledyne Technologies Company

Document Number: TH-PPC-002-P1 Rev 1

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