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Phumudzo Thivhafuni

Date: 2019/02/22

Limpopo Dept. of Economic Development, Environment and Tourism

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Ref: 12/4/12L-W2/A3 – Jan 2019

Dear Phumudzo

MEDUPI POWER STATION MONTHLY EMISSIONS REPORT FOR THE MONTH OF JANUARY 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 January 2019 only.

1. Raw Materials and Products

Table 1: Quantity of raw materials and products used/produced for Unit 4, 5 and 6 in January 2019

Raw Materials and Products used	Raw Material Type	Unit	Maximum Permitted Consumption/ Rate (Quantity)	Unit 4, 5 and 6 consumption January 2019
	Coal	Tons/month	1 875 000	260 060
	Fuel Oil	Tons/month	40 000	5791
Production Rates	Product/ By-Product Name	Unit	Maximum Production Capacity Permitted (Quantity)	Unit 4, 5 and 6 Production Rate in Month of January 2019
	Energy	MW	4800	1292
	Ash Emitted	Tons/month	not specified	67.7

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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-Jan -19	1.4	0.0	7.3		517	517	9189	463	364	636
02-Jan -19	24.0	0.0	0.0		535	535	6955	448	382	242
03-Jan -19	9.9	0.0	0.0		128	128	3670	391		348
04-Jan -19	0.0	0.0	11.5		402	402	8182	357		491
05-Jan -19	15.3	0.0	24.0		165	165	10974	436		653
06-Jan -19	0.0	0.0	24.0		32	32	7284		266	602
07-Jan -19	0.0	5.3	24.0		235	235	11787	218	438	578
08-Jan -19	0.0	24.0	24.0		190	190	14179	413	439	653
09-Jan -19	11.3	24.0	24.0		113	113	17028	451	461	625
10-Jan -19	24.0	3.6	24.0				11653	408	461	584
11-Jan -19	24.0	0.0	24.0		88	88	10645	400		550
12-Jan -19	24.0	0.0	23.0		32	32	9982	425		546
13-Jan -19	24.0	0.0	0.0		47	47	5628	432		412
14-Jan -19	16.8	0.0	0.0		299	299	8968	418		615
15-Jan -19	5.3	0.0	0.0		95	95	6036	428		333
16-Jan -19	24.0	0.0	8.2		200	200	12143	430		713
17-Jan -19	24.0	0.0	8.4		53	53	8936	430		542
18-Jan -19	24.0	0.0	7.9		68	68	10932	422		569
19-Jan -19	10.2	0.0	23.5				6392	409		433
20-Jan -19	0.0	0.0	0.0		80	80				
21-Jan -19	0.0	0.0	0.0		155	155	764	297		
22-Jan -19	5.4	0.0	0.0		239	239	7049	465		372
23-Jan -19	24.0	0.0	11.5		256	256	10314	434		486
24-Jan -19	24.0	0.0	24.0		53	53	10047	399		475
25-Jan -19	22.2	0.0	24.0		105	105	8292	318		475
26-Jan -19	0.0	0.0	24.0		320	320	6804	210		475
27-Jan -19	17.6	0.0	24.0		380	380	6782	209		449
28-Jan -19	24.0	0.0	24.0		323	323	7829	352		411
29-Jan -19	24.0	0.0	24.0		299	299	9174	307		556
30-Jan -19	24.0	0.0	2.8		188	188	6522	400		313
31-Jan -19	14.2	0.0	0.0		194	194	5925	327		407

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2. Abatement Technology

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

Associated Unit/Stack	Technology Type	Actual Utilisation (%) for the month of January 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 January 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	1.43
Ash Content	35 - 39	35.15

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

Characteristic	Stipulated Range (%)	Monthly Average Content (%)
Oil		
Sulphur Content	0.5 - 3.5	2.05
Ash Content	0.02 - 0.1	0.02

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 January 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	14.6	21.9	13.4	1930.8	2119.7	2628.5	526	401	386	5	9	6	120.8	127.0	89.8	89.8	89.9	13.2	13.9	9.0	8.9	5.2						
2	54.2	11.9		2697.4	2240.4	2168.4	483	492	381	8	5	9	125.5	111.5	89.5	89.7	89.8	12.7	10.0	8.4	9.0	9.1						
3	54.0			3033.1		2727.8	609		324	10		1		128.2	89.6		89.8		7.9	9.2		7.8						
4			18.8	2852.2		2586.3	658		393	8		1		122.9	89.5		89.8		10.8	10.1		6.0						
5	53.1		25.4	2619.5		2808.0	535		430	8		27		134.7	89.3		89.5		14.6	7.7		5.8						
6		28.8	22.8		2149.8	2792.9		420	429		7	54	125.6	133.3		89.3	89.4	12.6	13.6		9.2	5.7						
7		23.3	18.5	2558.3	2395.2	2575.0	626	415	375	4	4	15	132.2	129.9	89.2	89.4	89.4	14.0	12.8	8.9	8.0	5.2						
8		23.1	25.1	2472.4	2149.9	2596.1	553	384	465	12	4	195	125.2	136.2	89.1	89.2	89.2	13.7	14.6	8.9	8.0	5.2						
9	52.0	22.3	22.1	2258.8	1931.1	3054.9	1993	372		65	33	384	126.1	134.2	89.2	89.1	89.2	14.3	14.1	8.7	8.1	4.8						
10	43.3	18.1	22.1	2447.3	2001.0	2271.4	708	382	370	7	6	3	122.8	131.2	89.3	89.1	89.2	14.0	13.4	8.8	7.9	4.8						
11	44.8		22.0	2707.5		2532.3	822		376	7		1		133.9	89.4		89.2		12.8	8.9		4.9						
12	25.0		27.7	2459.5		2299.7	641		353	7		2		133.4	89.4		89.1		12.7	8.2		4.9						
13	14.1			2635.3		2287.2	629		301	7		3		121.0	89.5		89.3		10.7	7.9		6.0						
14	16.1			2771.3		2585.6	658		363	7		47		132.4	89.5		89.4		14.1	8.4		5.2						
15	5.8			2253.7		2297.6	506		405	10		3		124.8	89.3		89.5		8.9	8.4		7.6						
16	29.3		54.7	2714.0		2970.9	518		453	7		27		146.0	89.4		89.4		16.3	8.4		6.2						
17	11.3		30.4	2552.2		2383.8	537		400	7		43		127.0	90.1		89.5		14.7	8.3		7.4						
18	14.1		38.7	2671.8		2532.8	532		402	6		13		129.7	90.0		89.3		15.2	8.5		7.4						
19	20.0		39.3	2581.0		2638.3	659		381	8		2		134.0	89.8		89.4		10.5	9.2		7.6						
20																												
21				2844.8			541			12					89.5				11.2									
22	49.8			2708.2		1725.5	465		261	11				110.5	89.7		89.5		20.9	8.6		7.6						
23	67.5		82.5	2772.7		2516.5	597		367	9		4		133.0	89.8		89.4		18.4	8.9		7.7						
24	84.4		94.2	2999.5		2503.0	690		355	7		0		136.6	89.9		89.4		16.7	9.1		6.1						
25	71.6		60.1	2520.8		2727.0	673		340	13		1		125.5	89.9		89.6		16.2	9.4		6.2						
26			57.7	1729.2		2568.5	347		353	11		0		127.3	89.9		89.7		16.9	8.9		6.0						
27	61.9		19.3	1753.8		2710.3	373		327	9		0		119.2	89.7		89.9		12.6	8.9		6.5						
28	71.8		13.2	2455.5		2742.1	524		335	6		1		113.3	89.7		89.9		11.2	8.7		7.1						
29	50.2		31.2	2209.4		2709.8	463		391	8		3		123.4	89.6		89.9		14.6	8.9		5.6						
30	22.2		22.5	2878.5		2531.8	607		384	6		3		118.1	89.6		89.7		9.3	9.1		8.5						
31	21.1			3101.4		2813.2	672		375	11		7		126.2	89.6		89.7		11.0	10.9		7.2						

Note:

- 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.

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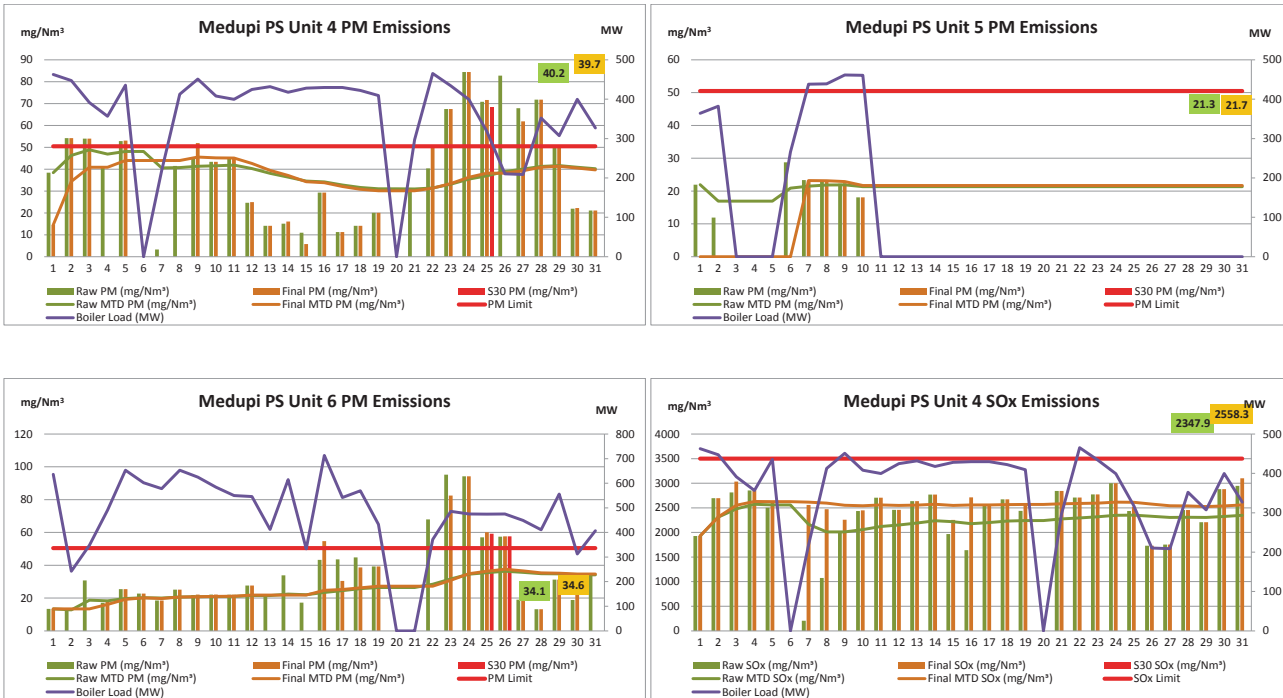
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Medupi Power Station graphical representation of the daily average emissions



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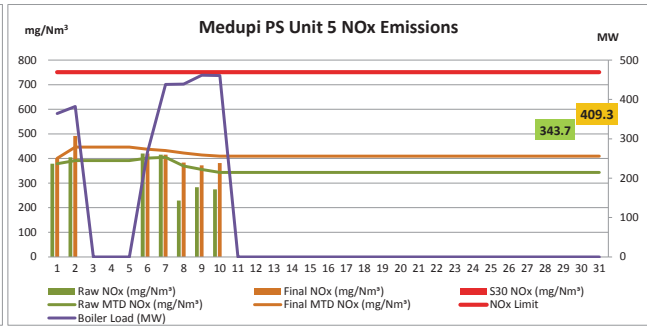
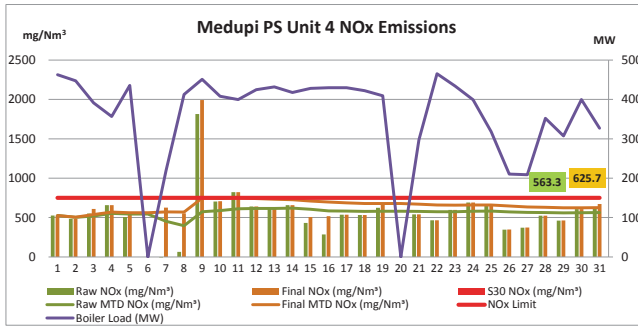
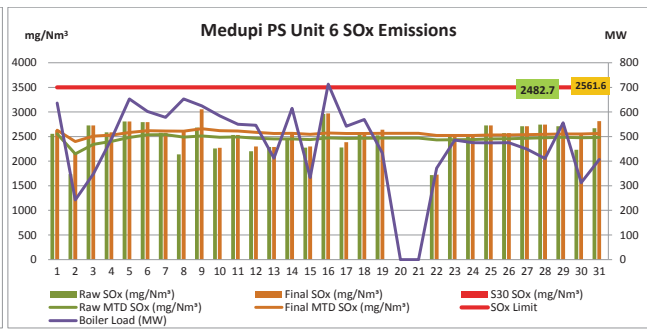
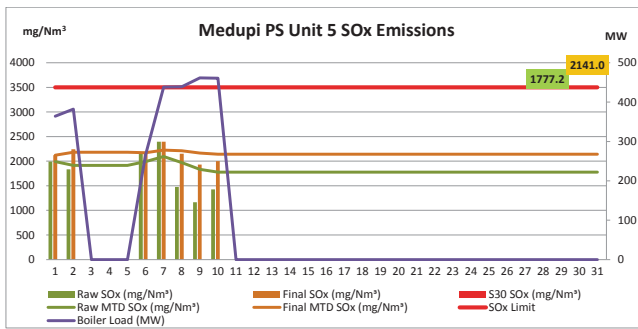
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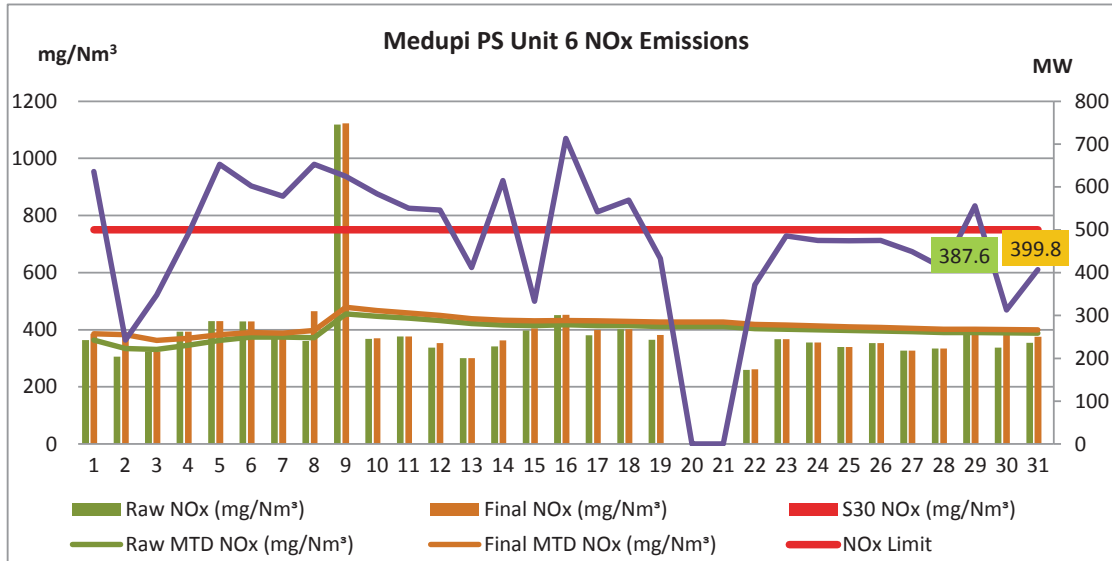


Table 7: Monthly tonnages for the month of January 2019


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	30.5	2 303	585		
5	2.8	439	81		
6	34.4	3 568	575		
SUM	67.7	6 310	1 241		

CO₂ monitoring equipment is currently not functional, procurement process is undergoing to purchase the spare required to fix/repair the equipment.

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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	31:00:00
2	00:00:00	00:00:00	00:00:00	31:00:00
3	00:00:00	00:00:00	00:00:00	31:00:00
4	21:08:50	02:00:00	01:00:00	06:15:10
5	04:02:00	00:00:00	00:00:00	26:22:00
6	19:03:40	03:00:00	01:11:35	07:08:45


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

Hours January EL1	
Date	EL1 Start
5 January 2019	04:28 EL1 and MCR in force
10 January 2019	18:28) EL1 and MCR in force. (21:56) EL1 and MCR cancelled
14 January 2019	EL1 cancelled (16h43)
15 January 2019	21h52: EL1 cancelled from 10h25
16 January 2019	(10:25) EL1 and MCR in force. (22:50) EL1 and MCR cancelled.
17 January 2019	(23:49) EL1 and MCR cancelled. (05:15) EL1 and MCR in force.
18 January 2019	(22:40) EL1 and MCR cancelled. (05:15) EL1 and MCR in force.
19 January 2019	(22:00) EL1 and MCR cancelled. (06:21) EL1 and MCR in force.
21 January 2019	23:34 EL1 and MCR cancelled
22 January 2019	04:52 EL1 and MCR in force (21 Jan 2019) 23:25 EL1 and MCR cancelled
24 January 2019	07:29 EL1 and MCR in-force. 22:54 Cancelled.
25 January 2019	08:12 EL1 & MCR in force
26 January 2019	07h03: EL1 in force (22:23 cancelled)

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Hours January EL1	
Date	EL1 Start
27 January 2019	04:06 EL1 & MCR in force
30 January 2019	EL1 and MCR in force as from 04:50
31 January 2019	06:39 EL1 and MCR in force.

6. Comments on the performance and availability of each unit

Medupi power station operating unit 5 was off load for most of the days in the reporting period. Unit 4 NO_x exceeded the limit of 750 mg/Nm³ on two occasions, Medupi Power Station conducted verification test on unit 4 CEMS in the month of January 2019. The department will be notified of the outcome of the tests as soon as the report is available.

Unit 4 particulates emissions incidents were witnessed as result of bag failures in the PJFF plant. The first set of exceedance was witnessed during the normal operations as a result of plant upset conditions and it was reported to the authorities as NEMA S30 incident. Unit 6 particulates emissions exceeded also exceeded the limit as witnessed on the graphs in the pages above; a spot check was arranged and conducted on 8 February 2019.

7. Light up information


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

Event No.	Event 1		Event 2		Event 3	
Unit	Unit 4		Unit 4		Unit 6	
Fires in	2019/01/03	2019/01/03	01:45 PM	2019/01/19	12:45 PM	2019/01/01
Synchronisation with Grid	05:15 AM	2019/01/04	06:30 PM	2019/01/21	12:25 PM	2019/01/03
Emissions below limit from Sync (Date and Time)	did not go above limit	did not go above limit	did not go above limit	did not go above limit	did not go above limit	did not go above limit
Fires in to synchronization	00:14:45	Hrs (dd:hh:mm)	02:04:45	Hrs (dd:hh:mm)	01:23:40	Hrs (dd:hh:mm)
Synchronization to < limit (Duration)	did not go above limit	Hrs (dd:hh:mm)	did not go above limit	Hrs (dd:hh:mm)	did not go above limit	Hrs (dd:hh:mm)

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Event No.	Event 1		Event 2	
Unit	Unit 6		Unit 6	
Fires in	06:55 PM	2019/01/14	12:20 PM	2019/01/17
Synchronisation with Grid	03:45 PM	2019/01/15	04:00 PM	2019/01/17
Emissions below limit from Sync (Date and Time)	<i>did not go above limit</i>	<i>did not go above limit</i>	<i>did not go above limit</i>	<i>did not go above limit</i>
Fires in to synchronization	00:20:50	Hrs (dd:hh:mm)	00:03:40	Hrs (dd:hh:mm)
Synchronization to < limit (Duration)	<i>did not go above limit</i>	Hrs (dd:hh:mm)	<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 4	2019/01/03	02:30 PM	2019/01/04	05:15 AM	13.3	3056.5	727.4
Unit 4	2019/01/19	01:45 PM	2019/01/21	06:30 PM	23.0	3021.6	629.4
Unit 6	2019/01/01	12:45 PM	2019/01/03	12:25 PM	14.4	1658.7	283.0
Unit 6	2019/01/14	06:55 PM	2019/01/15	03:45 PM	5.8	2360.3	629.1


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 4	2019/01/03	09:55 AM	2019/01/03	09:55 AM	24.9	493.5	0.0
Unit 4	2019/01/19	10:10 AM	2019/01/19	10:10 AM	2.8	401.2	44.6
Unit 6	2019/01/01	07:20 AM	2019/01/01	07:35 AM	2.6	537.6	98.4
Unit 6	2019/01/12	11:00 PM	2019/01/12	11:10 PM	11.7	4.6	2.9
Unit 6	2019/01/17	08:25 AM	2019/01/17	08:20 AM	21.8	-1.3	-0.9

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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. 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.

Table 13: Periods during which CEMS was inoperative

Date	Nature of Repair/Adjustment
None	N/A

Table 14: CEMS Monitor Reliability

Variable	Unit 4	Unit 5	Unit 6
Dust	99.8	100.0	100.0
SO ₂	95.4	75.0	97.4
NO _x	95.1	77.1	97.4
CO	98.8	94.8	99.2
O ₂	76.8	67.7	85.6
Temperature	0.0	100.0	99.4
Pressure	87.5	100.0	100.0
Velocity	0.0	93.8	98.2
CO ₂	0.0	0.0	0.0

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 Licencing 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 January 2019

		
CALCULATION OF EMISSIONS OF TOTAL VOLATILE COMPOUNDS FROM FUEL OIL STORAGE TANKS*		
Date:	31 January 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:	January	
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:	6602.62903	tons/month
Molecular weight of the fuel oil:	166.00	Lb/lb-mole
METEROLOGICAL DATA FOR THE MONTH	Data	Unit
Daily average ambient temperature	25.11	°C
Daily maximum ambient temperature	31.57	°C
Daily minimum ambient temperature	17.48	°C
Daily ambient temperature range	14.10	°C
Daily total insolation factor	5.87	kWh/m ² /day
Tank paint colour	Aluminum/Specular	NA
Tank paint solar absorbance	0.39	NA
FINAL OUTPUT:	Result	Unit
Breathing losses:	0.74 kg/month	
Working losses:	0.19 kg/month	
TOTAL LOSSES (Total TVOC Emissions for the month):	0.92 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, 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.</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 January 2019.

13. Complaints Register


Table 16: Complaints for the month of January 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

Reviewed by:

Boiler System EIT

Supported by:

Boiler Engineering Manager

Supported by:

Engineering Group manager (Acting)

I
correct.


declares that the information provided in this report is accurate and

GENERAL MANAGER: MEDUPI POWER STATION

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APPENDIX 1

CEMS Calibration certificates



12 Angeller Street, Bardene,
Boksburg, SA, 1459
PO Box 328, Isando, SA, 1600
VAT REG #: 421 021 2249
www.e-analytics.co.za

Tel: 0861 000 032
Intl. Tel: +27 11 918 6994
Fax: +27 11 894 1037
CO REG #: 2004/007807/07
info@e-analytics.co.za

CALIBRATION CERTIFICATE

		CERTIFICATE NO: 2816	
CUSTOMER:	Medupi Power Station	JOB NO:	SC1267
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	-2.6 ppm	0 ppm	Air	21 %	Air
	SPAN	796 ppm	804 ppm	CO	803.9 ppm	80A
2	ZERO	-9.0 ppm	0 ppm	Air	21 %	Air
	SPAN	821 ppm	834 ppm	NO	833.9 ppm	3207
3	ZERO	-4.2 ppm	0 ppm	Air	21 %	Air
	SPAN	2113 ppm	2090 ppm	SO2	2090.4 ppm	12833
4	ZERO	0.05 %	0.0 %	N2	99.99 %	3207
	SPAN	20.98 %	20.95 %	O2	20.96 %	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: 30 Oct 2018

Calibration Due Date: Feb 2019

Technician:

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 Fax: +27 11 884 1037
 CO REG #: 2004/007607/07
info@e-analytics.co.za

CALIBRATION CERTIFICATE

CERTIFICATE NO: 2817

CUSTOMER:	Medupi Power Station	JOB NO:	SC1267
CONTACT NAME:	Christo Vorster	PHONE:	014 762 2255
MODEL:	Foedisch MGA 23	SERIAL NO:	18339
AUXILIARY EQUIPMENT:	Unit 6		

CHAN		PRIOR	FINAL	TEST GAS	TEST GAS VALUE	GAS CERTIFICATE NUMBER
1	ZERO	+1.0 ppm	0 ppm	Air	21 %	Air
	SPAN	802 ppm	804 ppm	CO	803.9 ppm	80A
2	ZERO	+1.0 ppm	0 ppm	Air	21 %	Air
	SPAN	854 ppm	834 ppm	NO	833.9 ppm	3207
3	ZERO	-3.0 ppm	0 ppm	Air	21 %	Air
	SPAN	2265 ppm	2090 ppm	SO2	2090.4 ppm	12633
4	ZERO	0.07 %	0.0 %	N2	99.99 %	3207
	SPAN	20.79 %	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: 30 Oct 2018

Calibration Due Date: Feb 2019

Technician:




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

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CALIBRATION CERTIFICATE

		CERTIFICATE NO: 2818	
CUSTOMER:	Medupi Power Station	JOB NO:	SC1267
CONTACT NAME:	Christo Vorster	PHONE:	014 762 2255
MODEL:	Dr Fodisch MGA 12 CO2	SERIAL NO:	
AUXILIARY EQUIPMENT:	Unit 6		

CHAN		PRIOR	FINAL	TEST GAS	TEST GAS VALUE	GAS CERTIFICATE NUMBER
1	ZERO	0.6 %	0.0 %	Air	21 %	Air
	SPAN	822 ppm	22.0 %	CO2	22.1 %	222921

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: 30 Oct 2018

Calibration Due Date: Feb 2019

Technician:




Document Number: TH-PFC-001-F1 Rev 1

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

CALIBRATION CERTIFICATE

CERTIFICATE NO: 2815						
CUSTOMER:	Medupi Power Station		JOB NO:	SC1267		
CONTACT NAME:	Christo Vorster		PHONE:	014 762 2255		
MODEL:	Dr Fodisch MGA 23		SERIAL NO:	13668		
AUXILIARY EQUIPMENT:	Unit 4					
CHAN	PRIOR	FINAL	TEST GAS	TEST GAS VALUE	GAS CERTIFICATE NUMBER	
1	ZERO	-5.0 ppm	0 ppm	Air	21 %	Air
	SPAN	788 ppm	804 ppm	CO	803.9 ppm	80A
2	ZERO	-12.0 ppm	0 ppm	Air	21 %	Air
	SPAN	818 ppm	834 ppm	NO	833.9 ppm	3207
3	ZERO	-17.3 ppm	0 ppm	Air	21 %	Air
	SPAN	1945 ppm	2090 ppm	SO2	2090.4 ppm	12633
4	ZERO	0.11 %	0.0 %	N2	99.99 %	3207
	SPAN	27.15 %	20.95	O2	20.95 %	Air

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

Date: 30 Oct 2018

Calibration Due Date: Feb 2019

Technician:



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



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